



Texaco Exploration and Production Inc

3300 N Butler
Farmington NM 87401

May 12, 1997

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
1594 West North Temple
Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

RE: **Application for Permit to Drill (APD)**
Texaco SWD # 2 , Surf Loc: 111' FNL, 930' FWL, Unit D
Sec. 14-T18S-R7E
Emery County, Utah

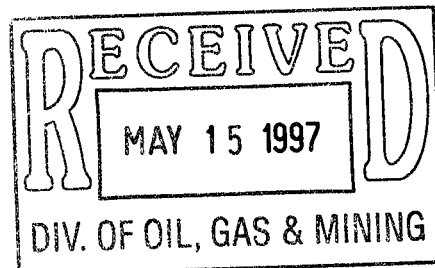
Gentlemen:

Texaco Exploration and Production Inc. is seeking approval from the Division of Oil, Gas and Mining to drill a salt water disposal well. Texaco requests confidential status of this well and all information pertaining to it.

Your attention to this matter is greatly appreciated. If you have any questions concerning this matter please contact me at 505-325-4397, ext. 20.

Sincerely,

Ted A. Tipton
Operating Unit Manager
RSD/s, Attachments



STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR PERMIT TO DRILL OR DEEPEN		5. Lease Designation and Serial No. <div style="text-align: center;">FEE</div>	
1a. Type of Work DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		6. If Indian, Alottee or Tribe Name	
1b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER SALT WATER DISPOSAL		7. If Unit or CA, Agreement Designation	
SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		8. Well Name and Number FEE	
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.		SWD-2	
3. Address and Telephone No. 3300 N. Butler Ave., Suite 100 Farmington NM 87401 325-4397		9. API Well No.	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At Surface 34 Feet From The NORTH Line and 283 Feet From The WEST Line Unit Letter D : 111' At proposed prod. zone		10. Field and Pool, Exploratory Area WILDCAT	
CONFIDENTIAL		11. SEC., T., R., M., or BLK. and Survey or Area Sec. 14, Township T18S, Range R7E	
		12. County or Parish EMERY	13. State UT
14. Distance In Miles and Direction from Nearest Town or Post Office* APPROX. 6.5 MI. NORTHWEST OF CASTLE DALE, UTAH		17. No. of Acres Assigned To This Well	
15. Distance From Proposed* Location to Nearest Property or Lease Line, Ft. (also to nearest drlg. unit line, if any) 111'		16. No. of Acres in Lease	
18. Distance From Proposed Location* to Nearest Well, Drilling, Completed or Applied For, On This Lease, Ft.		19. Proposed Depth 7345'	
20. Rotary or Cable Tools ROTARY		22. Approx. Date Work Will Start* 6/15/97	
21. Elevations (Show whether DF, RT, GR, etc.) KB DF 6041' GR			

23. PROPOSED CASING AND CEMENT PROGRAM				
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48#	300'	400 SX
12-1/4"	9-5/8"	36#	2500'	400 SX
8-3/4"	7"	23#	7345'	575 SX

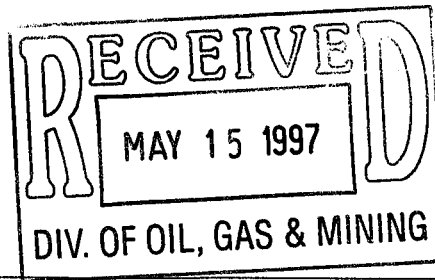
Describe Proposed Program: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured true verticle depths. Give blowout preventer program, if any.

TEXACO EXPLORATION & PRODUCTION, INC. PROPOSES TO DRILL A WATER DISPOSAL WELL TO A DEPTH OF 7345'. IF THE WELL IS INCAPABLE OF WATER DISPOSAL, IT WILL BE PLUGGED AND ABANDONED AS PER STATE OF UTAH REQUIREMENTS.

PLEASE BE ADVISED THAT TEXACO EXPLORATION & PRODUCTION, INC. HAS BEEN AUTHORIZED BY PROPER LEASE INTEREST OWNERS TO CONDUCT OPERATIONS ON THE ABOVE MENTIONED LOCATION. TEXACO EXPLORATION & PRODUCTION, INC. AGREES TO BE RESPONSIBLE UNDER THE TERMS AND CONDITIONS OF THE LEASE FOR OPERATIONS CONDUCTED UPON THE LEASE LANDS.

BOND COVERAGE FOR THIS WELL IS PROVIDED BY BOND NO. CO-0058 (NATIONWIDE BOND). THE PRINCIPAL IS TEXACO EXPLORATION & PRODUCTION, INC. VIA SURETY CONSENT AS PROVIDED FOR IN 43 CFR-3104.2.

CONFIDENTIAL



24. (This space for State use only)

SIGNATURE *Ted A. Tipton* TITLE Operating Unit Manager DATE 5/12/97

TYPE OR PRINT NAME Ted A. Tipton

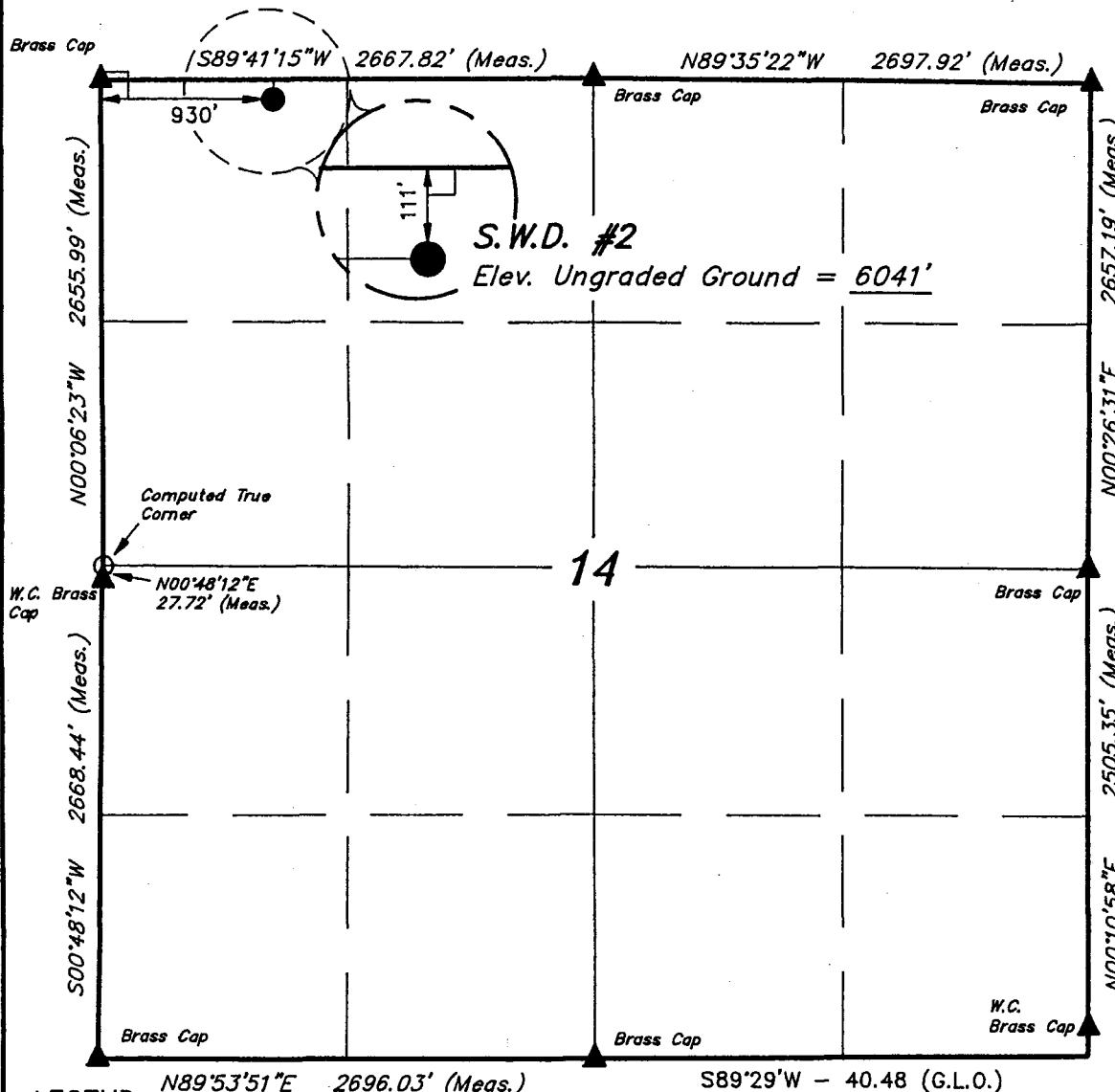
API Number Assigned 43-015-30323

APPROVAL

John R. Baya
Petroleum Engineer

6/27/97

T18S, R7E, S.L.B.&M.



LEGEND:

- └─┘ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- = COMPUTED TRUE CORNER. (Not Set)
- ▲ = SECTION CORNERS LOCATED.

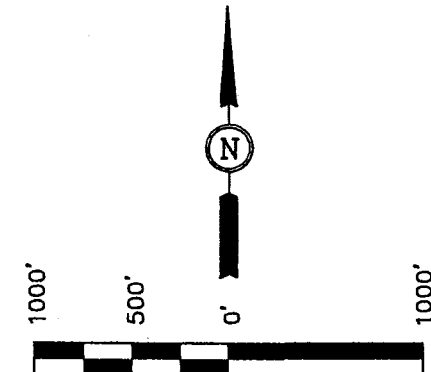
BASIS OF BEARINGS IS THE EAST LINE OF THE SE 1/4 OF SECTION 9, T18S, R7E, S.L.B.&M. WHICH IS ASSUMED FROM G.L.O. INFORMATION TO BEAR N00°09'E.

TEXACO EXPLR. & PROD., INC.

Well location, S.W.D. #2, located as shown in the NW 1/4 NW 1/4 of Section 14, T18S, R7E, S.L.B.&M. Emery County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION AT A ROAD INTERSECTION IN THE SE 1/4 OF SECTION 14, T18S, R7E, S.L.B.&M. TAKEN FROM THE RED POINT QUADRANGLE, UTAH, EMERY COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6001 FEET.



SCALE

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Robert L. Hay
 REGISTERED LAND SURVEYOR
 REGISTRATION NO. 161319
 STATE OF UTAH

UNTAEH ENGINEERING & LAND SURVEYING
 85 SOUTH 200 EAST - VERNAL, UTAH 84078
 (801) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 04-10-97	DATE DRAWN: 04-18-97
PARTY B.B. D.R. D.R.B.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE TEXACO EXPLR. & PROD., INC.	

DRILLING PROGRAM

OPERATOR: TEXACO EXPLORATION & PRODUCTION, INC.
WELL NAME: SWD #1
LEASE NUMBER:
LOCATION: 111' FNL - 930' FWL, SECTION 14, T18S/R7E SLPM, EMERY CO., UTAH

1. ESTIMATED TOPS OF GEOLOGIC MARKERS

THE ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS ARE AS FOLLOWS:

<u>FORMATION</u>	<u>DEPTH</u>	<u>SUBSEA</u>
BLUEGATE SHALE	100'	+5835
FERRON FM	2050'	+3885
TUNUNK SHALE	2320'	+3615
DAKOTA FM	2880'	+3055
CEDAR MTN	2974'	+2961
BUCKHORN	3480'	+2455
MORRISON	3655'	+2280
SUMMERVILLE	3830'	+2105
CURTIS	4250'	+1685
ENTRADA	4450'	+1485
CARMEL	5195'	+740
NAVAJO	6005'	-70
KAYENTA	6500'	-565
WINGATE	6630'	-695
CHINLE	6960'	-1025
SHINARUMP	7065'	-1130
MOENKOPI	7245'	-1310
T.D.	7345'	-1410

2. ESTIMATED DEPTHS OF ANTICIPATED OIL, GAS, WATER, OR OTHER MINERAL BEARING ZONES

<u>SUBSTANCE</u>	<u>FORMATION</u>	<u>DEPTH</u>
WATER, GAS	FERRON COALS	2050'
GAS	FERRON SANDSTONES	2050'
OIL	N/A	
OTHER MINERALS	N/A	

ALL FRESH WATER AND PROSPECTIVELY VALUABLE MINERALS ENCOUNTERED DURING DRILLING, WILL BE RECORDED BY DEPTH AND ADEQUATELY PROTECTED. ALL OIL AND GAS SHOWS WILL BE TESTED TO DETERMINE COMMERCIAL POTENTIAL.

ALL WATER SHOWS AND WATER-BEARING SANDS WILL BE REPORTED TO THE STATE OF UTAH, ON FORM OGC-8-X

3. CASING PROGRAM

THE PROPOSED CASING PROGRAM WILL BE AS FOLLOWS:

<u>PURPOSE</u>	<u>DEPTH</u>	<u>HOLE SIZE</u>	<u>O.D.</u>	<u>WEIGHT</u>	<u>GRADE</u>
SURFACE	0-300'	17-1/2"	13-3/8"	48#	H-40
INTERMED.	0-2500'	12-1/4"	9-5/8"	36#	K-55
PRODUC.	0-7345'	8-3/4"	7"	23#	N-80

4. CEMENT PROGRAM

THE CEMENT PROGRAM WILL BE AS FOLLOWS:

SURFACE
0-300'

TYPE AND AMOUNT
CEMENT TO SURFACE WITH 400 SX CLASS "G" CEMENT
1.15 CU. FT./SX, 15.8 PPG

INTERMEDIATE
0-2500'

TYPE AND AMOUNT
LEAD: CEMENT FROM 2000' TO SURFACE WITH 240 SX
CLASS "G" CEMENT, 3.98 CU. FT./SX, 11 PPG
TAIL: CEMENT FROM 2500' TO 2000' WITH 160 SX RFC 10-1
CEMENT, 1.61 CU. FT./SX, 14.2 PPG

PRODUCTION
0-7345'

TYPE AND AMOUNT
LEAD: CEMENT FROM 5500' TO SURFACE WITH 255 SX
CLASS "G" CEMENT, 3.98 CU. FT./SX, 11 PPG
TAIL: CEMENT FROM 7345' TO 5500' WITH 320 SX CLASS 'G'
NEAT CEMENT, 1.15 CU. FT./SX, 15.8 PPG

5. DRILLING FLUIDS

THE PROPOSED CIRCULATING MEDIUMS TO BE EMPLOYED IN DRILLING ARE AS FOLLOWS:

<u>INTERVAL</u>	<u>MUD TYPE</u>	<u>MUD WT.</u>	<u>VISC.</u>
0-300'	AIR/MIST	--	--
300'-2500'	AIR/MIST	--	--
2500'-6000'	AIR/MIST	--	--
6000'-T.D.	LSND	8.8-9.0	--

6. TESTING, LOGGING AND CORING

THE ANTICIPATED TYPE AND AMOUNT OF TESTING, LOGGING AND CORING ARE AS FOLLOWS:

- A. NO DRILL STEM TESTS ARE PLANNED.
- B. THE LOGGING PROGRAM WILL CONSIST OF A GR-LDT-CNL LOG FROM 1300' - 7345'. A HIGH RESOLUTION COAL LOG WILL BE RUN FROM 1700' - 2400'. AN SP-SFL-DIL LOG WILL BE RUN FROM T.D. TO THE BASE OF SURFACE CASING AT 300'.

7. SPUD DATE / DRILLING TIME

- A. DRILLING IS PLANNED TO COMMENCE ON APPROX. JUNE 15, 1997.
- B. IT IS ANTICIPATED THAT THE DRILLING WILL TAKE APPROXIMATELY 18 DAYS.

8. ROAD USE / WATER SOURCE

- A. ALL ACCESS IS LOCATED ON PRIVATE ROADS.
- B. SINCE THE WELL IS BEING DRILLED PRIMARILY BY AIR, LIMITED QUANTITIES OF WATER WILL BE NECESSARY. WATER FOR DRILLING WILL BE OBTAINED FROM A LOCAL WATER HAULER, WHO WILL OBTAIN IT FROM A LOCAL SOURCE.

9. BOP EQUIPMENT

TEXACO'S MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL EQUIPMENT ARE AS FOLLOWS:

12-1/4" HOLE TO 2500' - RAM TYPE: 11" HYDRAULIC DOUBLE, 2000 PSI W.P.

8-3/4" HOLE TO 7345' - RAM TYPE: 11" HYDRAULIC DOUBLE, 3000 PSI W.P.

RAM TYPE PREVENTERS AND ASSOCIATED EQUIPMENT SHALL BE TESTED TO APPROVED STACK WORKING PRESSURE IF ISOLATED BY TEST PLUG OR TO 70 PERCENT OF INTERNAL YIELD PRESSURE OF CASING. PRESSURE SHALL BE MAINTAINED FOR AT LEAST 10 MINUTES OR UNTIL REQUIREMENTS OF TEST ARE MET, WHICHEVER IS LONGER. IF A TEST PLUG IS UTILIZED, NO BLEED-OFF PRESSURE IS ACCEPTABLE. FOR A TEST NOT UTILIZING A TEST PLUG, IF A DECLINE IN PRESSURE OF MORE THAN 10 PERCENT IN 30 MINUTES OCCURS, THE TEST SHALL BE CONSIDERED TO HAVE FAILED. VALVE ON CASING HEAD BELOW TEST PLUG SHALL BE OPEN DURING TEST OF BOP STACK.

AS A MINIMUM, THE ABOVE TEST SHALL BE PERFORMED:

- A. WHEN INITIALLY INSTALLED;
- B. WHENEVER ANY SEAL SUBJECT TO TEST PRESSURE IS BROKEN
- C. FOLLOWING RELATED REPAIRS; AND
- D. AT 30 DAY INTERVALS

VALVES SHALL BE TESTED FROM WORKING PRESSURE SIDE DURING BOPE TESTS WITH ALL DOWNSTREAM VALVES OPEN.

WHEN TESTING THE KILL LINE VALVE(S), THE CHECK VALVE SHALL BE HELD OPEN OR THE BALL REMOVED.

PIPE AND BLIND RAMS SHALL BE ACTIVATED EACH TRIP, HOWEVER, THIS FUNCTION NEED NOT BE PERFORMED MORE THAN ONCE A DAY.

A BOPE PIT LEVEL DRILL SHALL BE CONDUCTED WEEKLY FOR EACH DRILLING CREW.

PRESSURE TESTS SHALL APPLY TO ALL RELATED WELL CONTROL EQUIPMENT.

ALL OF THE ABOVE DESCRIBED TESTS AND/OR DRILLS SHALL BE RECORDED IN THE DRILLING LOG. TEST CHARTS, WITH INDIVIDUAL TEST RESULTS IDENTIFIED, SHALL BE MAINTAINED ON LOCATION WHILE DRILLING AND SHALL BE MADE AVAILABLE TO A BLM REPRESENTATIVE UPON REQUEST. PRESSURE TESTS SHALL APPLY TO ALL RELATED WELL CONTROL EQUIPMENT.

BOP SYSTEMS SHALL BE CONSISTENT WITH API RP53. PRESSURE TESTS WILL BE CONDUCTED BEFORE DRILLING OUT FROM UNDER CASING STRINGS WHICH HAVE BEEN SET AND CEMENTED IN PLACE. BLOWOUT PREVENTER CONTROLS WILL BE INSTALLED PRIOR TO DRILLING THE SURFACE CASING PLUG AND WILL REMAIN IN USE UNTIL THE WELL IS COMPLETED OR ABANDONED. PREVENTERS WILL BE INSPECTED AND OPERATED AT LEAST DAILY TO ENSURE GOOD MECHANICAL WORKING ORDER, AND THIS INSPECTION WILL BE RECORDED ON THE DAILY DRILLING REPORT. PREVENTERS WILL BE PRESSURE TESTED BEFORE DRILLING CASING CEMENT PLUGS.

- A. THE SIZE AND RATING OF THE BOP STACK IS SHOWN ON THE ATTACHED DIAGRAM. ALTHOUGH A RIG HAS NOT BEEN CHOSEN TO DRILL THIS WELL, MOST OF THE EQUIPMENT FOR THIS DEPTH OF HOLE IN THE AREA USE A 11", 2000 PSI WORKING PRESSURE BLOWOUT PREVENTOR.
- B. A CHOKE LINE AND A KILL LINE ARE TO BE PROPERLY INSTALLED. THE KILL LINE IS NOT TO BE USED AS A FILL UP LINE.
- C. THE ACCUMULATOR SYSTEM SHALL HAVE A PRESSURE CAPACITY TO PROVIDE FOR REPEATED OPERATION OF HYDRAULIC PREVENTORS.
- D. DRILL STRING SAFETY VALVE(S), TO FIT ALL TOOLS IN THE DRILL STRING, ARE TO BE MAINTAINED ON THE RIG FLOOR WHILE DRILLING OPERATIONS ARE IN PROGRESS.

10. **ABNORMAL PRESSURES AND H2S GAS**

- A. NO ABNORMAL CONDITIONS ARE ANTICIPATED. NO ABNORMAL TEMPERATURES ARE ANTICIPATED.
- B. NO HYDROGEN SULFIDE GAS IS ANTICIPATED.

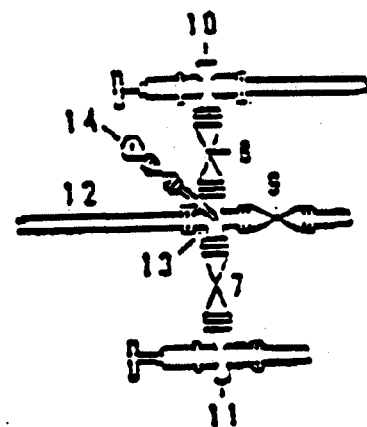
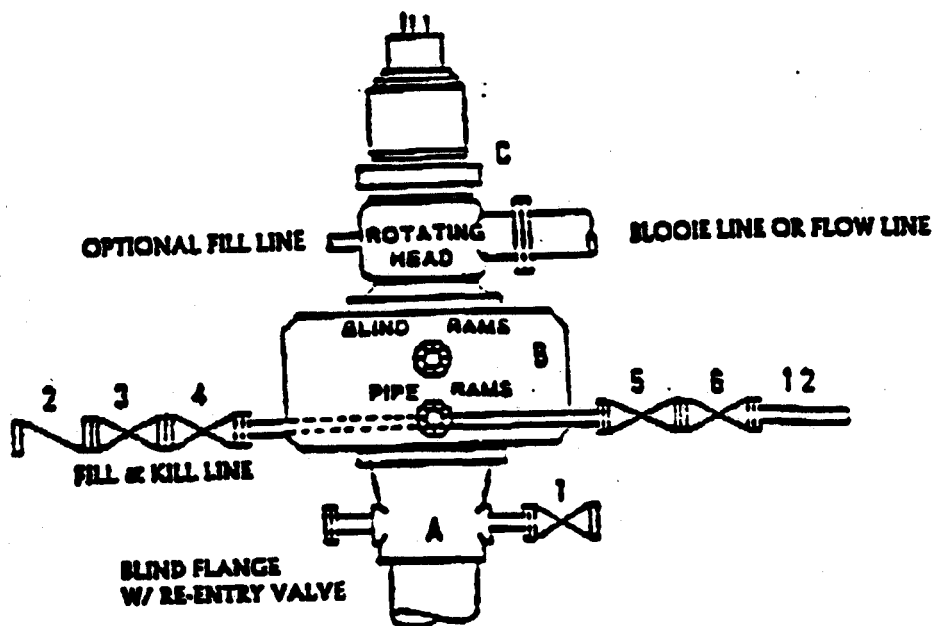
11. **LESSEE'S OR OPERATOR'S REPRESENTATIVE**

PERMIT MATTERS
TEXACO E. & P., INC.
TED A. TIPTON
3300 N. BUTLER AVE.
FARMINGTON, NM 87401
(505) 325-4397

DRILLING AND COMPLETION MATTERS
TEXACO E. & P., INC.
P.O. BOX 46510
DENVER, CO 80201-6510
(303) 793-4000 MAIN NUMBER
(303) 793-4936 - (W) STEVE GODFREY
(303) 347-0737 - (H)



TYPICAL 2000 p.s.i. BLOWOUT PREVENTER SCHEMATIC FOR AIR DRILLING



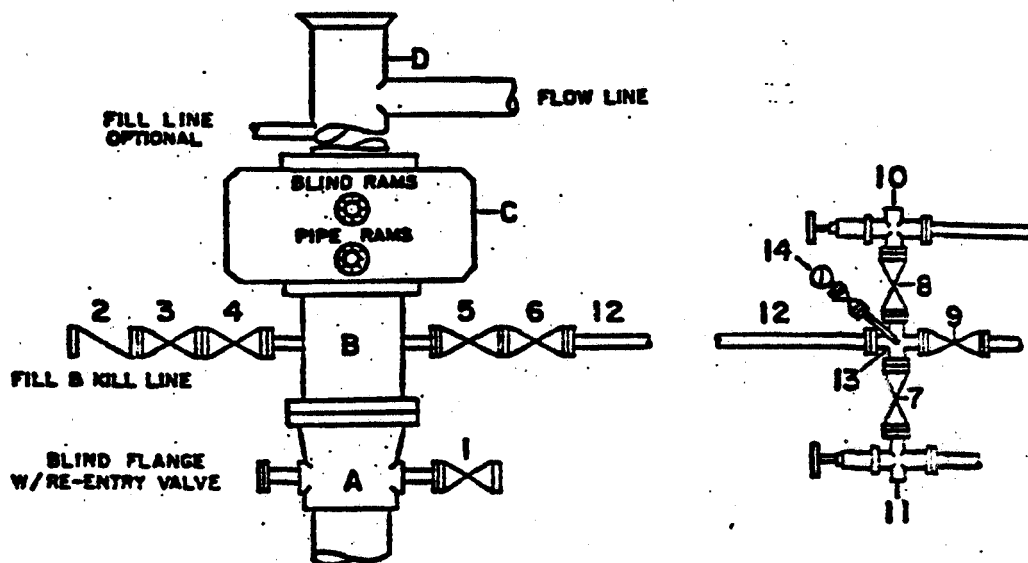
DRILLING CONTROL

MATERIAL LIST*

- A Texaco Wellhead.
- B 2000# W.P. Dual ram type preventer, hydraulic operated with 1" steel, 2000# W.P. control lines (where sub-structure height is adequate, 2 - 2000# W.P. single ram type preventers may be utilized).
- C Rotating head with extended Blooe Line (optional fill up outlet).
- 1, 3, 4 2" minimum 2000# W.P. flanged full opening steel gate valve, or Halliburton Lo Torc Plug valve.
- 2 2" minimum 2000# W.P. back pressure valve.
- 5, 6, 9 2" minimum 2000# W.P. flanged full opening steel gate valve, or Halliburton Lo Torc Plug valve.
- 12 2" minimum schedule 80, Grade "B", seamless line pipe.
- 13 2" minimum x 2" minimum 2000# W.P. flanged cross.
- 10, 11 2" minimum 2000# W.P. adjustable choke bodies.
- 14 Cameron Mud Gauge or equivalent (location optional in choke line).
- 15 2" minimum 2000# W.P. flanged or threaded full opening steel gate valve, or Halliburton Lo Torc Plug valve.

*(OR EQUIVALENT)

DRILLING CONTROL **CONDITION II-3000 PSI WP**



DRILLING CONTROL

MATERIAL LIST - CONDITION II

- | | |
|------------|---|
| A | Texaco Wellhead |
| B | 3000# W.P. drilling spool with a 2" minimum flanged outlet for kill-line and 3" minimum flanged outlet for choke line |
| C | 3000# W.P. Dual ram type preventer, hydraulic operated with 1" steel, 3000# W.P. control lines (where sub-structure height is adequate, 2-3000# W.P. single ram type preventers may be utilized.) |
| D | Bell nipple with flowline and fill-up outlets. (Kill line may also be used for fill-up line.) |
| 1,3,4, 7,8 | 2" minimum 3000# W.P. flanged full opening steel gate valve, or Halliburton Lo Torc Plug valve. |
| 2 | 2" minimum 3000# W.P. back pressure valve |
| 5,6,9 | 3" minimum 3000# W.P. flanged full opening steel gate valve, or Halliburton Lo Torc Plug valve. |
| 12 | 3" minimum schedule 80, Grade "B", seamless line pipe |
| 13 | 2" minimum x 3" minimum 3000# W.P. flanged cross |
| 10, 11 | 2" minimum 3000# W.P. adjustable choke bodies |
| 14 | Cameron Mud Gauge or equivalent (location optional in choke line.) |



TEXACO, INC.
REFINING DIVISION
HOUSTON, TEXAS



SCALE	DAT	EST	NO	INC
DRAWN BY				
CHECKED BY				

EXHIBIT B

THIRTEEN POINT SURFACE USE PLAN

OPERATOR: TEXACO EXPLORATION & PRODUCTION, INC.
LEASE NAME: FEE
LEASE NUMBER:
LOCATION: 111' FNL - 930' FWL, SECTION 14, T18S/R7E SLPM, EMERY CO., UTAH

1. **EXISTING ROADS.**

- A. THE PROPOSED WELL SITE IS LOCATED APPROXIMATELY 6.5 MILES WEST OF CASTLE DALE, UTAH.
- B. DIRECTIONS TO THE LOCATION FROM CASTLE DALE, UTAH ARE AS FOLLOWS:

FROM CASTLE DALE, UTAH, PROCEED WEST APPROX. 2 MI. TO COAL HAUL RD. TAKE COAL HAUL RD. NORTH APPROX. 4 MI. TO STATE HWY #29. GO WEST(LEFT) ON #29 FOR APPROX. .8 MI. TURN OFF # 29 RIGHT ON NORTH SIDE OF ROAD. FOLLOW FLAGS APPROX. .2 MI. TO LOCATION.
- C. THIS WELL WILL REQUIRE .2 MI OF NEW ACCESS ROAD.
- D. THE LOCATION SURFACE IS UNDER NEGOTIATIONS TO BE OWNED OUTRIGHT BY TEXACO E. & P., INC.

2. **PLANNED ACCESS ROAD.**

- A. .2 MI OF NEW ACCESS ROAD IS REQUIRED FOR THE SUBJECT WELL. CONSTRUCTION WILL NOT CHANGE EXISTING DRAINAGE.
- B. SURFACE DISTURBANCE AND VEHICULAR TRAVEL WILL BE LIMITED TO THE APPROVED LOCATION AND APPROVED ACCESS ROUTE. ANY ADDITIONAL AREA NEEDED WILL BE APPROVED IN ADVANCE.

3. **LOCATION OF EXISTING WELLS WITHIN A 1-MILE RADIUS OF THE PROPOSED LOCATION.**

- A. WATER WELLS - NONE
- B. INJECTION WELLS - NONE
- C. PRODUCING WELLS - 3 EXISTING COAL-BED METHANE WELLS OPERATED BY TEXACO E. & P. INC).
- D. DRILLING WELLS - NONE

4. **LOCATION OF TANK BATTERIES AND PRODUCTION FACILITIES.**

- A. ALL PERMANENT STRUCTURES (ONSITE FOR SIX MONTHS OR LONGER) CONSTRUCTED OR INSTALLED (INCLUDING OIL WELL PUMP JACKS) WILL BE PAINTED A NEUTRAL COLOR TO BLEND WITH THE SURROUNDING ENVIRONMENT. FACILITIES REQUIRED TO COMPLY WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) WILL BE EXCLUDED.
- B. IF STORAGE FACILITIES/TANK BATTERIES ARE CONSTRUCTED ON THIS LEASE, THE FACILITY /BATTERY OR THE WELLPAD SHALL BE SURROUNDED BY A CONTAINMENT DIKE OF SUFFICIENT CAPACITY TO CONTAIN AT A MINIMUM, THE ENTIRE CONTENT OF THE LARGEST TANK WITHIN THE

FACILITY/BATTERY, UNLESS MORE STRINGENT PROTECTIVE REQUIREMENTS ARE DEEMED NECESSARY BY THE AUTHORIZED OFFICER.

- C. ALL LOADING LINES WILL BE PLACED INSIDE THE BERM SURROUNDING THE TANK BATTERY.
- D. GAS MEASUREMENT DEVICES WILL BE LOCATED IN ACCORDANCE WITH THE APPROPRIATE REGULATORY BODY.
- E. ALL METER MEASUREMENT FACILITIES WILL CONFORM WITH ONSHORE OIL AND GAS ORDER NO. 4 FOR LIQUID HYDROCARBONS AND ONSHORE OIL AND GAS ORDER NO. 5 FOR NATURAL GAS MEASUREMENT.
- F. ANY NECESSARY PITS WILL BE PROPERLY FENCED TO PREVENT ANY WILDLIFE ENTRY.
- G. ALL OFF-LEASE STORAGE, OFF-LEASE MEASUREMENT, OR COMMINGLING ON-LEASE OR OFF-LEASE WILL HAVE PRIOR WRITTEN APPROVAL FROM THE AUTHORIZED OFFICER.

5. LOCATION AND TYPE OF WATER SUPPLY.

- A. ALL WATER NEEDED FOR DRILLING PURPOSES WILL BE OBTAINED FROM A LOCAL WATER HAULER.
- B. WATER WILL BE HAULED TO LOCATION OVER THE ROADS MARKED ON MAPS ATTACHED.
- C. NO WATER WELL IS TO BE DRILLED ON THIS LEASE, WITHOUT PROPER APPROVAL OF DIVISION OF WATER RIGHTS IN PRICE, UTAH.
- D. ALL APPROPRIATE PERMITS WILL BE FILED WITH THE DIVISION OF WATER RIGHTS IN PRICE, UTAH.

6. SOURCE OF CONSTRUCTION MATERIALS.

- A. SURFACE AND SUBSOIL MATERIALS IN THE IMMEDIATE AREA WILL BE UTILIZED.
- B. ANY GRAVEL USED WILL BE OBTAINED FROM A STATE APPROVED COMMERCIAL SOURCE.

7. METHODS OF HANDLING WASTE DISPOSAL.

- A. SINCE THE PROPOSED WELL WILL BE AIR-DRILLED, ONLY A SMALL RESERVE PIT WILL BE NECESSARY. THE RESERVE PIT WILL BE CONSTRUCTED SO AS NOT TO LEAK, BREAK, OR ALLOW DISCHARGE. THE RESERVE PIT WILL BE LINED IF DETERMINED NECESSARY AT THE TIME OF CONSTRUCTION.
- B. IF THE PIT IS LINED, A PLASTIC NYLON REINFORCED LINER WILL BE USED. IT WILL BE A MINIMUM OF 12 MIL THICKNESS WITH SUFFICIENT BEDDING (EITHER STRAW OR DIRT) TO COVER ANY ROCKS. THE LINER WILL OVERLAP THE PIT WALLS AND BE COVERED WITH DIRT AND/OR ROCKS TO HOLD IT IN PLACE. NO TRASH, SCRAP PIPE, ETC., THAT COULD PUNCTURE THE LINER WILL BE DISPOSED OF IN THE PIT.
- C. ALL TRASH WILL BE CONTAINED IN A TRASH CAGE AND ITS CONTENTS REMOVED AT THE END OF DRILLING OPERATIONS AND HAULED TO AN APPROVED DISPOSAL SITE.
- E. DRILL CUTTINGS ARE TO BE CONTAINED AND BURIED IN THE RESERVE PIT.
- F. ANY SALTS AND/OR CHEMICALS WHICH ARE AN INTEGRAL PART OF THE DRILLING SYSTEM, WILL BE DISPOSED OF IN THE SAME MANNER AS THE DRILLING FLUID.

- G. SEWAGE WILL BE PLACED IN A PORTABLE CHEMICAL TOILET OR HOLDING TANK AND DISPOSED OF IN ACCORDANCE WITH STATE AND COUNTY REGULATIONS.
- H. THE PRODUCED FLUIDS WILL BE PRODUCED INTO A TEST TANK UNTIL SUCH TIME AS CONSTRUCTION OF PRODUCTION FACILITIES IS COMPLETED. ANY SPILLS OF OIL, GAS, SALT WATER OR OTHER PRODUCED FLUIDS WILL BE CLEANED UP.

8. ANCILLARY FACILITIES.

- A. THERE ARE NO AIRSTRIPS, CAMPS, OR OTHER FACILITIES PLANNED DURING THE DRILLING OF THE PROPOSED WELL.

9. WELL SITE LAYOUT.

- A. THE RESERVE PIT WILL BE LOCATED ON THE NORTH SIDE OF THE LOCATION.
- B. THE STOCKPILED TOPSOIL (FIRST SIX INCHES) WILL BE STORED ALONG THE EAST SIDE OF THE WELLPAD AS SHOWN ON THE RIG LAYOUT.
- C. SEE LOCATION LAYOUT FOR ORIENTATION OF RIG, CROSS SECTION OF DRILL PAD AND CUTS AND FILLS.
- D. THE LOCATION OF MUD TANKS, RESERVE PIT, TRASH CAGE, PIPE RACKS, LIVING FACILITIES AND SOIL STOCKPILES ARE SHOWN ON THE LOCATION LAYOUT.
- E. ALL PITS WILL BE FENCED TO PREVENT WILDLIFE ENTRY.
- F. THE RESERVE PIT FENCING WILL BE ON THREE SIDES DURING OPERATIONS AND ON THE FOURTH SIDE WHEN THE RIG MOVES OFF LOCATION. PITS WILL BE FENCED AND MAINTAINED UNTIL CLEANUP.

10. PLANS FOR RESTORATION OF SURFACE.

DISPOSAL WELL LOCATION

- A. IMMEDIATELY UPON WELL COMPLETION, THE LOCATION AND SURROUNDING AREA WILL BE CLEARED OF ALL UNUSED TUBING, EQUIPMENT, DEBRIS, MATERIALS, TRASH AND JUNK NOT REQUIRED FOR PRODUCTION.
- B. IMMEDIATELY UPON WELL COMPLETION, ANY HYDROCARBONS ON THE PIT SHALL BE REMOVED IN ACCORDANCE WITH 43 CFR 3162.7-1.
- C. IF A PLASTIC NYLON REINFORCED LINER IS USED, IT SHALL BE TORN AND PERFORATED BEFORE BACKFILLING OF THE RESERVE PIT.
- D. ONCE THE RESERVE PIT IS DRY, THE RESERVE PIT AND THAT PORTION OF THE LOCATION NOT NEEDED FOR PRODUCTION FACILITIES/OPERATIONS WILL BE RECONTOURED TO THE APPROXIMATE NATURAL CONTOURS.

DRY HOLE

- F. AT SUCH TIME AS THE WELL IS PLUGGED AND ABANDONED, THE OPERATOR SHALL SUBMIT A SUBSEQUENT REPORT OF ABANDONMENT AND WILL RECLAIM LANDS AS PER GUIDELINES PURSUANT TO AO.

11. **SURFACE OWNERSHIP.**

- A. ACCESS ROADS - ALL EXISTING IMPROVED ROADS ARE COUNTY MAINTAINED AND ENCROACHMENT IS BEING APPLIED FOR.
- B. WELLPAD - THE WELLPAD IS LOCATED ON LANDS BEING NEGOTIATED TO BE OWNED BY TEXACO E. & P. INC. - THE OPERATOR.

12. **OTHER INFORMATION.**

13. **LESSEE'S OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION.**

PERMIT MATTERS
TEXACO E. & P., INC.
TED A. TIPTON
3300 N. BUTLER AVE.
FARMINGTON, NM 87401
(505) 325-4397

DRILLING AND COMPLETION MATTERS
TEXACO E. & P., INC.
P.O. BOX 46510
DENVER, CO 80201-6510
(303) 793-4000 MAIN NUMBER
(303) 793-4936 - (W) STEVE GODFREY
(303) 347-0737 - (H)

CERTIFICATION

I HEREBY CERTIFY THAT I, OR PERSONS UNDER MY DIRECT SUPERVISION, HAVE INSPECTED THE PROPOSED DRILLSITE AND ACCESS ROUTE; THAT I AM FAMILIAR WITH THE CONDITIONS WHICH PRESENTLY EXIST; THAT THE STATEMENTS MADE IN THIS PLAN ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND CORRECT; AND, THAT THE WORK ASSOCIATED WITH THE OPERATIONS PROPOSED HEREIN WILL BE PERFORMED BY TEXACO EXPLORATION & PRODUCTION, INC. AND ITS CONTRACTORS AND SUBCONTRACTORS IN CONFORMITY WITH THE PLAN AND THE TERMS AND CONDITIONS UNDER WHICH IT IS APPROVED.

THIS STATEMENT IS SUBJECT TO THE PROVISIONS OF 18.U.S.C. 1001 FOR THE FILING OF A FALSE STATEMENT.

5/12/97

DATE:

Ted A. Tipton

TED A. TIPTON
OPERATING UNIT MANAGER
TEXACO E. & P., INC.

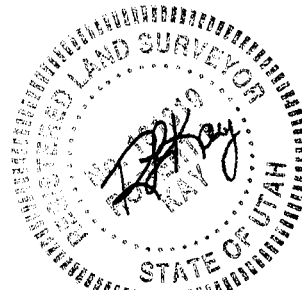
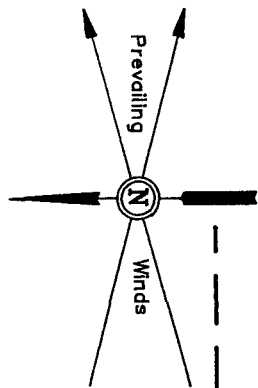
TEXACO EXPLR. & PROD., INC.

LOCATION LAYOUT FOR

S.W.D. #2

SECTION 14, T18S, R7E, S.L.B.&M.

111' FNL 930' FWL



SCALE: " = 50'
DATE: 04-18-97
DRAWN BY: D.R.B.

APPROX.
TOP OF
CUT SLOPE

Note:
Flare Pit is to
be located a min.
of 100' from the
Well Head.

C-12.0'
El. 44.2'
(btm. pit)

DO NOT DISTURB
BEYOND PROPERTY LINE

Note:
Pit Capacity With
2' of Freeboard
is ±6,980 Bbls.

C-6.6'
El. 38.8'
(btm. pit)

Property Line

C-6.4'
El. 46.6' Topsoil Stockpile

C-3.3'
El. 43.5'

F-5.0'
El. 35.2'

Sta. 2+50

Round Corners
as Needed

Proposed Access
Road

C-1.8'
El. 42.0'

PIPE RACKS

C-0.7'
El. 40.9'

F-2.1'
El. 38.1'

Sta. 1+25

Existing
Drainage

APPROX.
TOE OF
FILL SLOPE

Sta. 0+50

Sta. 0+00

Reserve Pit Backfill
& Spoils Stockpile

F-1.6'
El. 38.6'

F-3.1'
El. 37.1'

F-6.7'
El. 33.5'

Elev. Ungraded Ground at Location Stake = 6040.9'

Elev. Graded Ground at Location Stake = 6040.2'

UINTAH ENGINEERING & LAND SURVEYING

85 So. 200 East

Vernal, Utah (801) 789-1017

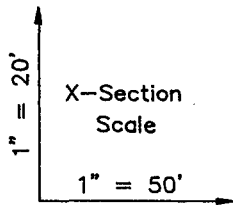
TEXACO EXPLR. & PROD., INC.

TYPICAL CROSS SECTIONS FOR

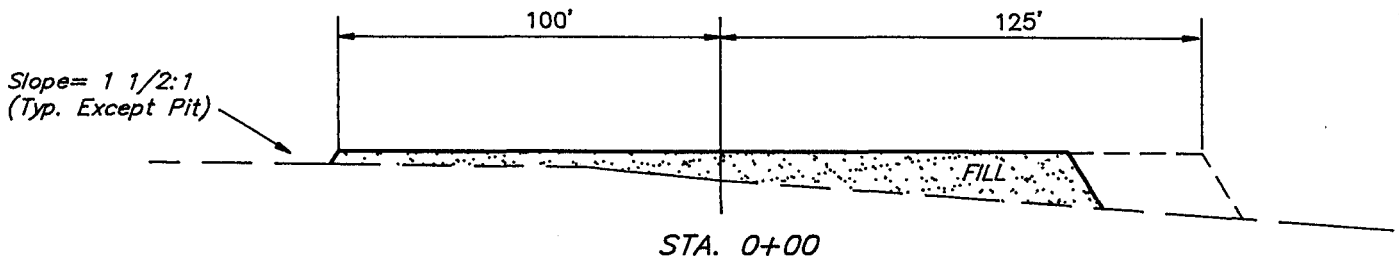
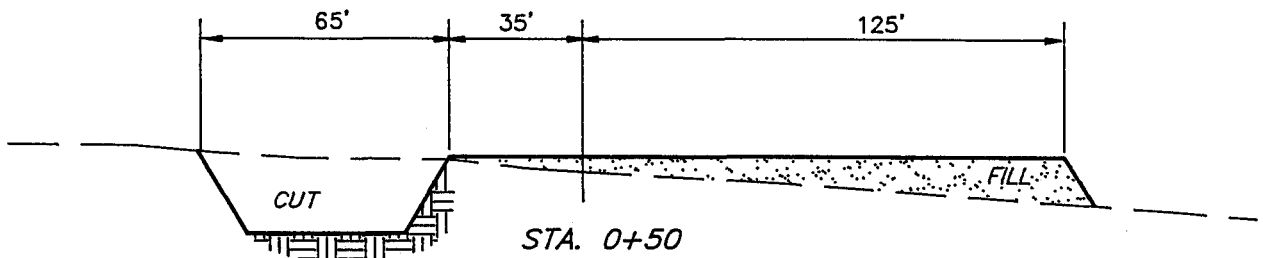
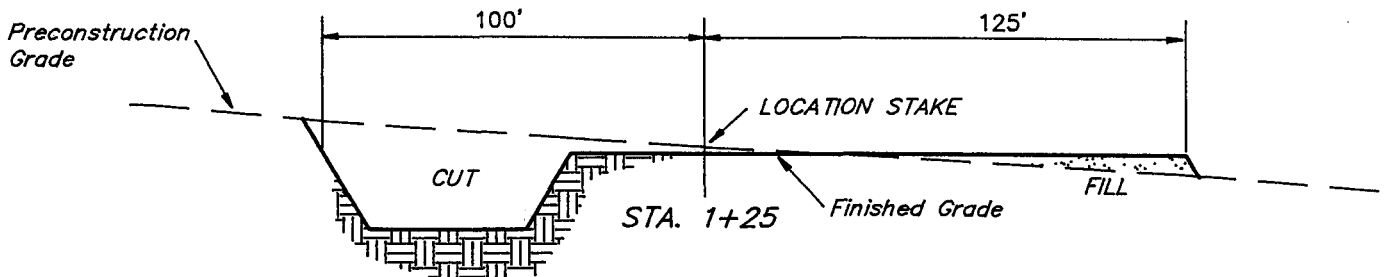
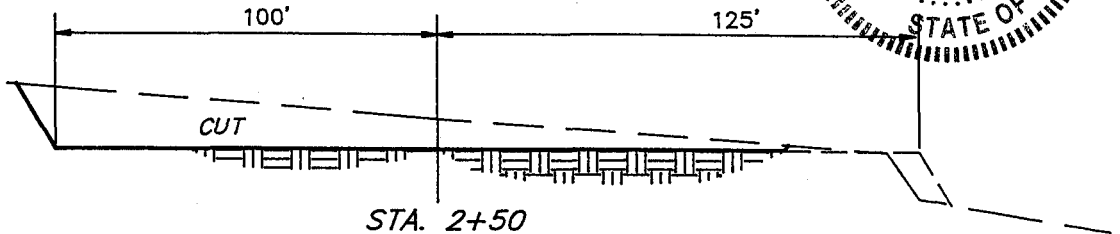
S.W.D. #2

SECTION 14, T18S, R7E, S.L.B.&M.

111' FNL 930' FWL



DATE: 04-18-97
DRAWN BY: D.R.B.



APPROXIMATE YARDAGES

CUT

(6") Topsoil Stripping = 1,040 Cu. Yds.

Remaining Location = 3,870 Cu. Yds.

TOTAL CUT = 4,910 CU.YDS.

FILL = 2,680 CU.YDS.

EXCESS MATERIAL AFTER
5% COMPACTION

= 2,090 Cu. Yds.

Topsoil & Pit Backfill
(1/2 Pit Vol.)

= 2,090 Cu. Yds.

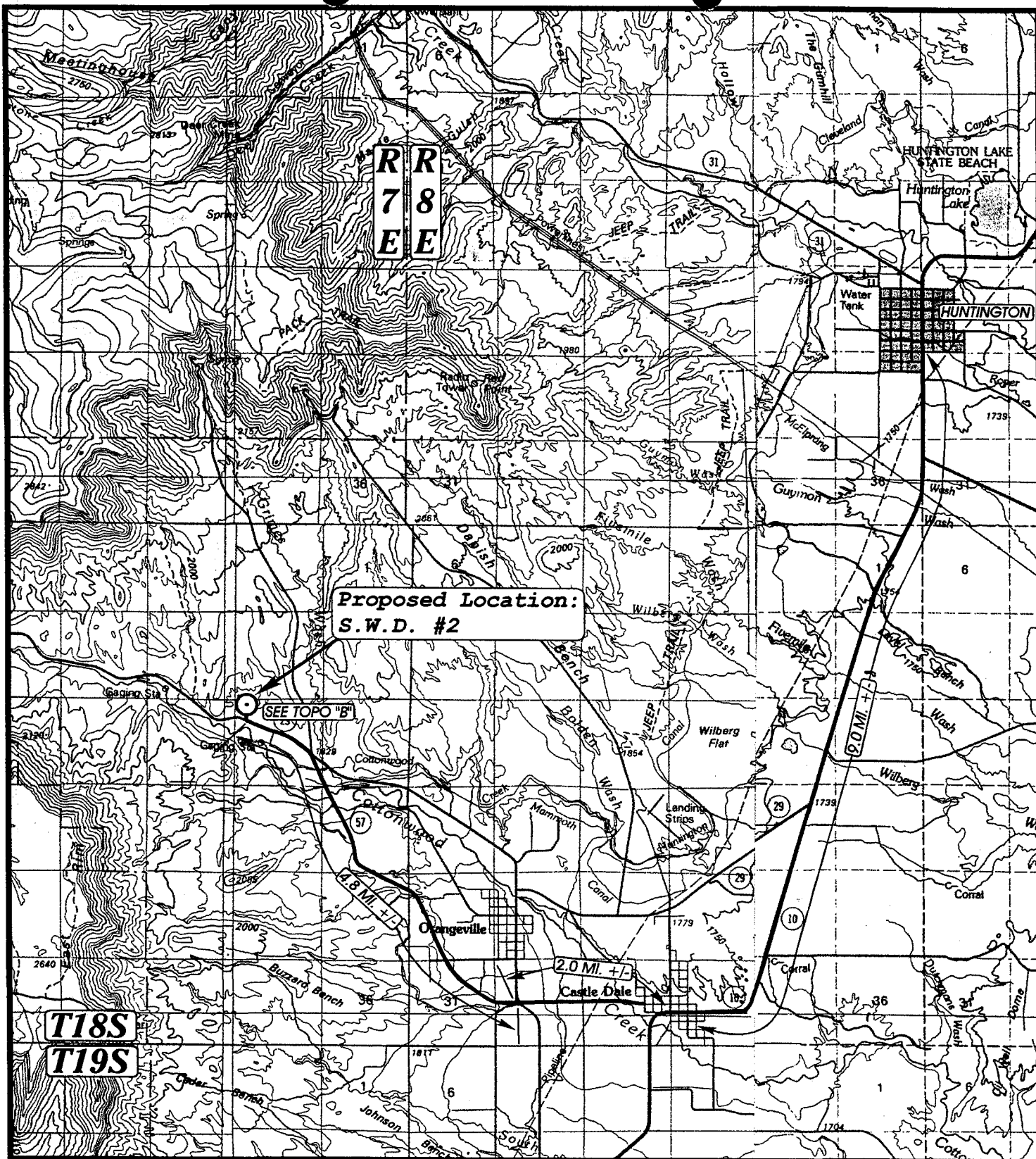
EXCESS UNBALANCE
(After Rehabilitation)

= 0 Cu. Yds.

UINTAH ENGINEERING & LAND SURVEYING

85 So. 200 East

Vernal, Utah (801) 789-1077



UELS

**TOPOGRAPHIC
MAP "A"**

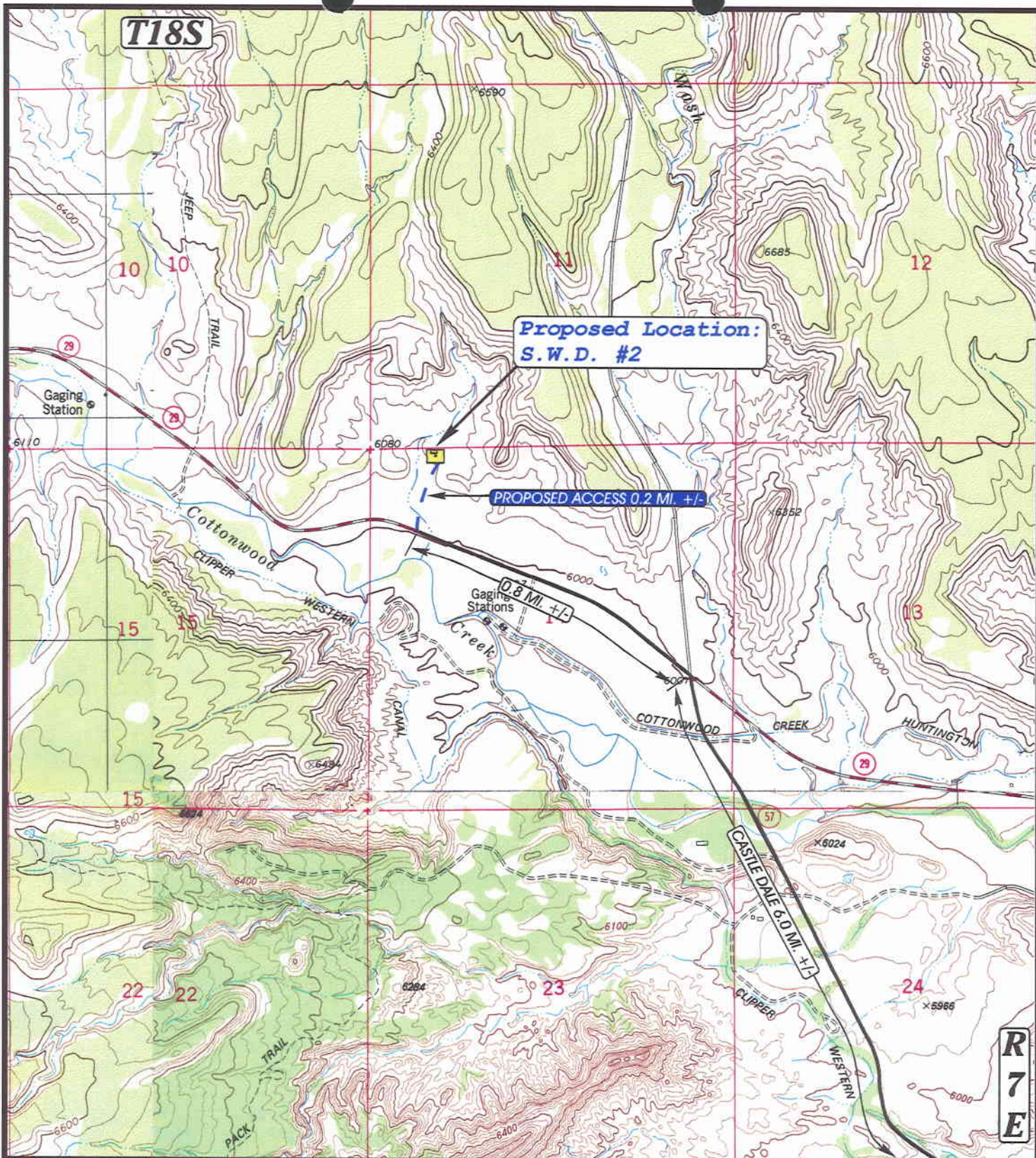
DATE: 4-14-97
Drawn by: J.L.G.



TEXACO EXPLR. & PROD., INC.

S.W.D. #2
SECTION 14, T18S, R7E, S.L.B.&M.
111' FNL 930' FWL

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017



UELS

**TOPOGRAPHIC
MAP "B"**

**DATE: 4-14-97
Drawn by: J.L.G.**

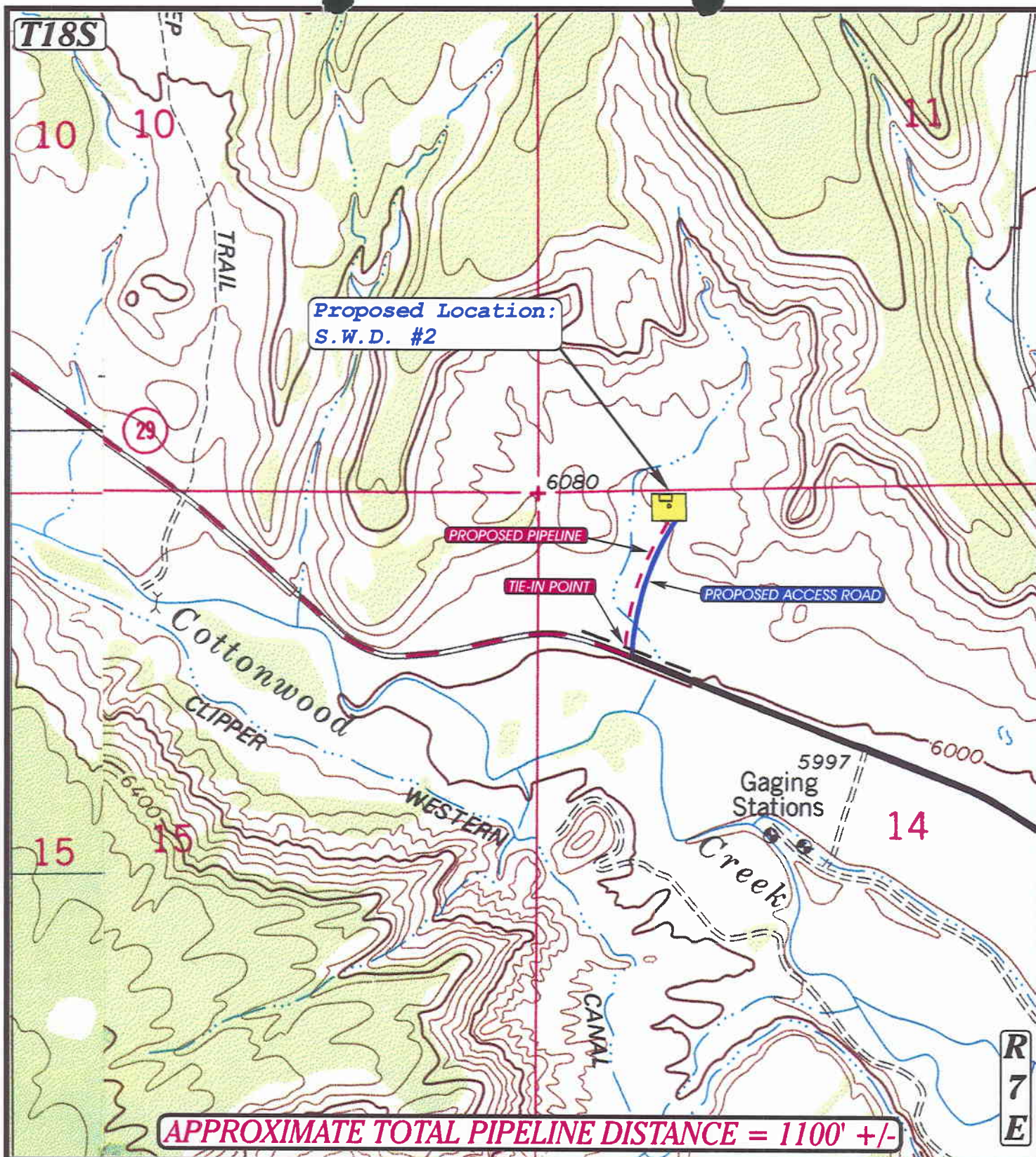


TEXACO EXPLR. & PROD., INC.

**S.W.D. #2
SECTION 14, T18S, R7E, S.L.B.&M.
111' FNL 930' FWL**

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017

SCALE: 1" = 2000'



**TOPOGRAPHIC
MAP "C"**

UELS — — — Existing Pipeline
- - - Proposed Pipeline

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017



SCALE: 1" = 1000'

TEXACO EXPLR. & PROD., INC.

**S.W.D. #2
SECTION 14, T18S, R7E, S.L.B.&M.**

**DATE: 4-14-97
Drawn by: J.L.G.**

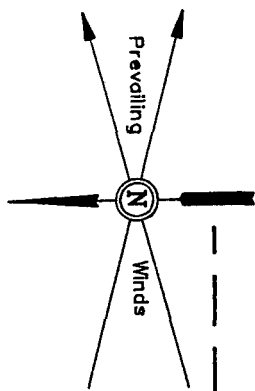
TEXACO EXPLR. & PROD., INC.

LOCATION LAYOUT FOR

S.W.D. #2

SECTION 14, T18S, R7E, S.L.B.&M.

111' FNL 930' FWL



SCALE: " = 50'
DATE: 04-18-97
DRAWN BY: D.R.B.

APPROX.
TOP OF
CUT SLOPE

Note:
Flare Pit is to
be located a min.
of 100' from the
Well Head.

C-12.0'
El. 44.2'
(btm. pit)

DO NOT DISTURB
—BEYOND PROPERTY LINE

Note:
Pit Capacity With
2' of Freeboard
is ±6,980 Bbls.

C-6.6'
El. 38.8'
(btm. pit)

Reserve Pit Backfill
& Spoils Stockpile

F-1.6'
El. 38.6'

F-3.1'
El. 37.1'

F-5.0'
El. 35.2'

Sta. 2+50

F-2.1'
El. 38.1'

Sta. 1+25

APPROX.
TOE OF
FILL SLOPE

Sta. 0+00

F-6.7'
El. 33.5'

Property Line

Elev. Ungraded Ground at Location Stake = 6040.9'

Elev. Graded Ground at Location Stake = 6040.2'

UINTAH ENGINEERING & LAND SURVEYING

85 So. 200 East Vernal, Utah (801) 789-1017

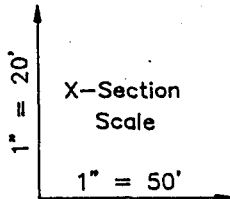
TEXACO EXPLR. & PROD., INC.

TYPICAL CROSS SECTIONS FOR

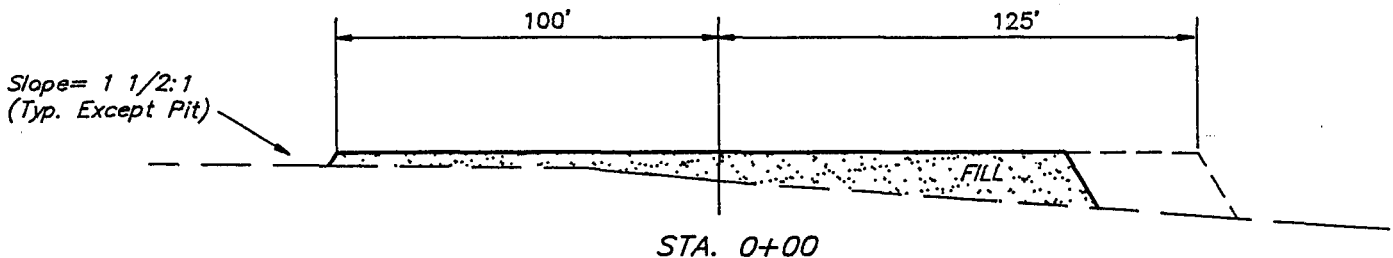
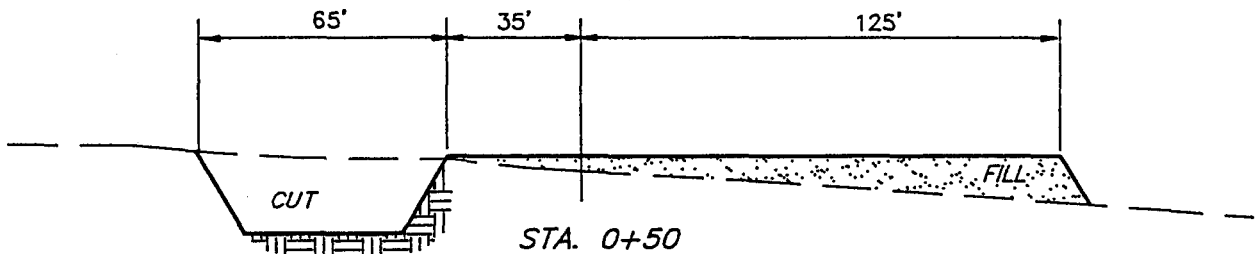
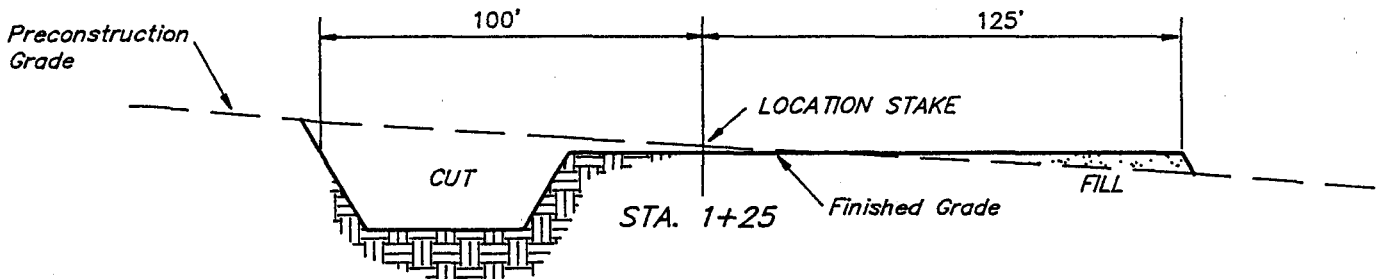
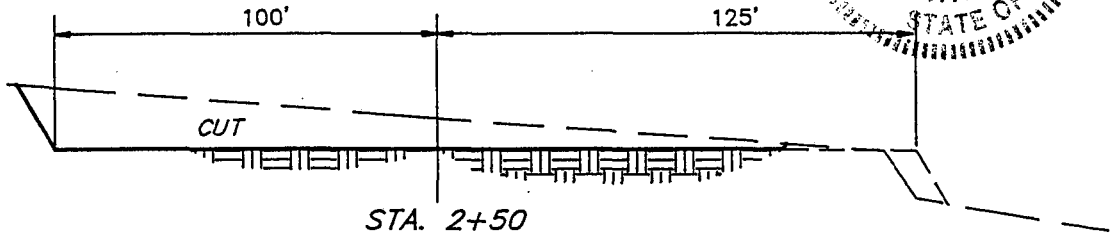
S.W.D. #2

SECTION 14, T18S, R7E, S.L.B.&M.

111' FNL 930' FWL



DATE: 04-18-97
DRAWN BY: D.R.B.



APPROXIMATE YARDAGES

CUT	
(6") Topsoil Stripping	= 1,040 Cu. Yds.
Remaining Location	= 3,870 Cu. Yds.
TOTAL CUT	= 4,910 CU.YDS.
FILL	= 2,680 CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION	= 2,090 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 2,090 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	= 0 Cu. Yds.

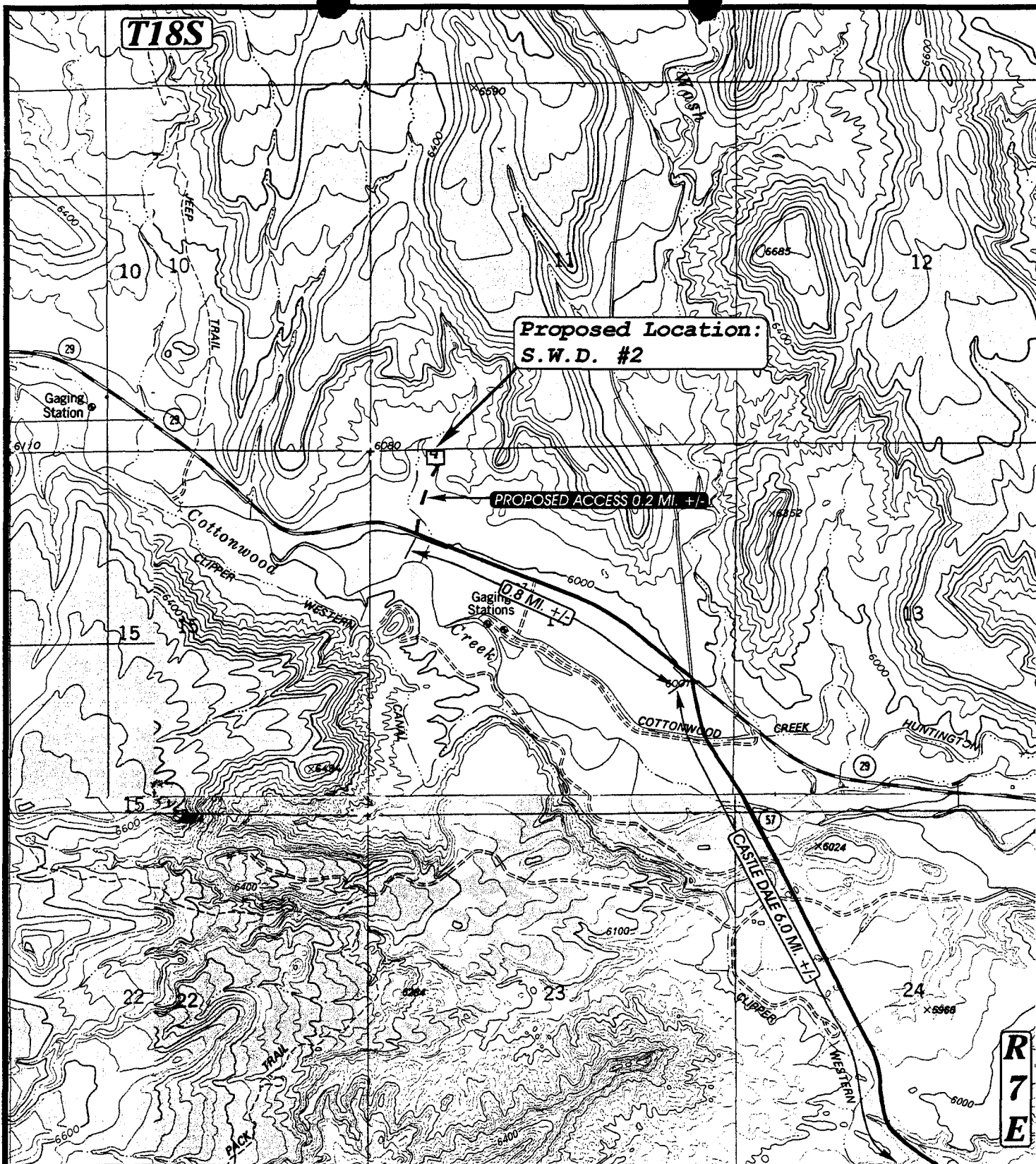
UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East Vernal, Utah (801) 788-1017



UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017



S.W.D. #2
SECTION 14, T18S, R7E, S.L.B.&M.
111' FNL 930' FWL



UEIS

**TOPOGRAPHIC
MAP "B"**

**DATE: 4-14-97
Drawn by: J.L.G.**

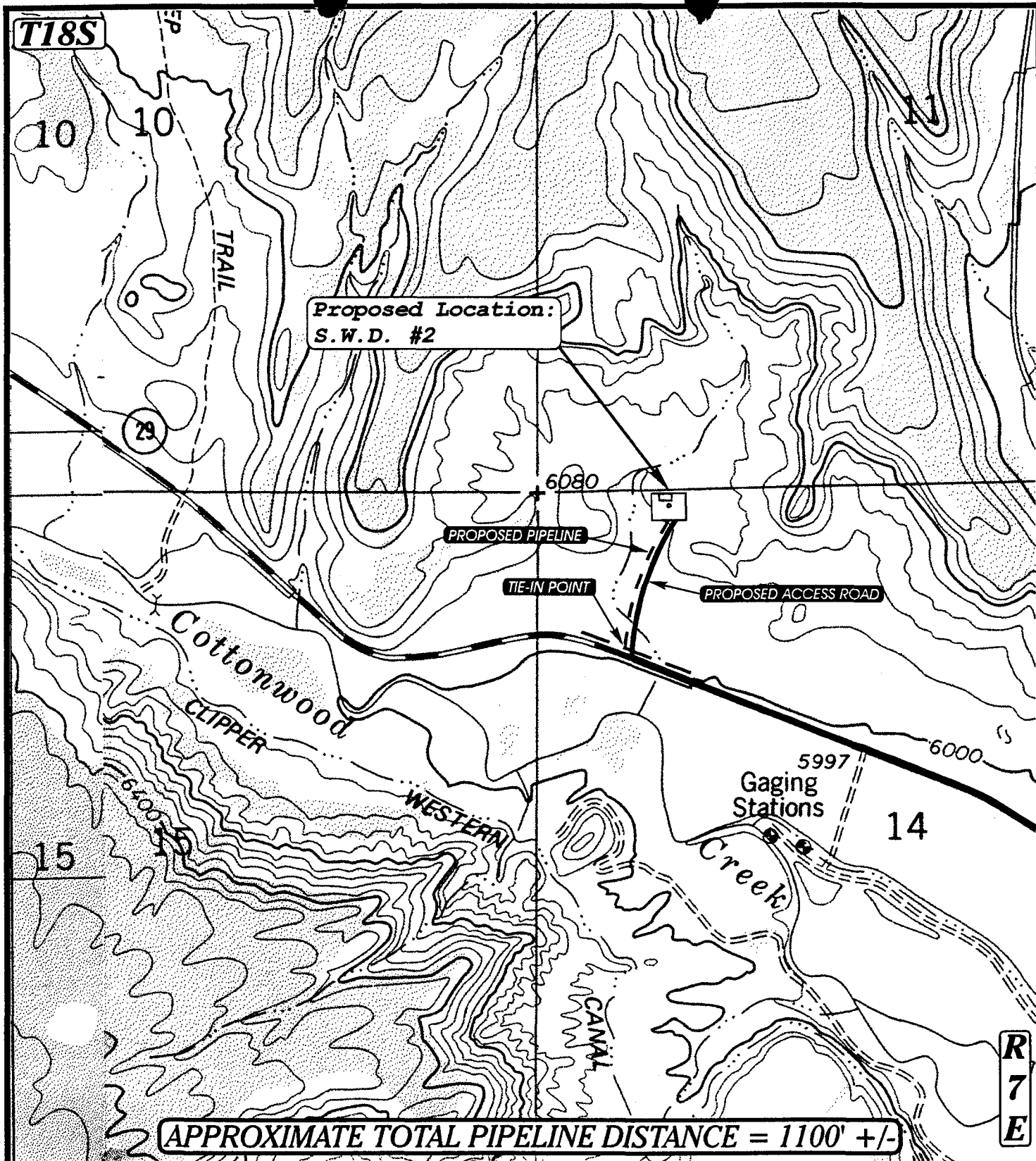


TEXACO EXPLR. & PROD., INC.

**S.W.D. #2
SECTION 14, T18S, R7E, S.L.B.&M.
111' FNL 930' FWL**

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017

SCALE: 1" = 2000'



UELS

**TOPOGRAPHIC
MAP "C"**

--- Existing Pipeline
- - - Proposed Pipeline



TEXACO EXPLR. & PROD., INC.

**S.W.D. #2
SECTION 14, T18S, R7E, S.L.B.&M.**

**DATE: 4-14-97
Drawn by: J.L.G.**

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017

SCALE: 1" = 1000'

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 05/19/97

API NO. ASSIGNED: 43-015-30323

WELL NAME: SWD 2

OPERATOR: TEXACO E & P INC (N5700)

PROPOSED LOCATION:

NWNW 14 - T18S - R07E
SURFACE: 0111-FNL-0930-FWL
BOTTOM: 0111-FNL-0930-FWL
EMERY COUNTY
UNDESIGNATED FIELD (002)

INSPECT LOCATION BY: 05/30/97

TECH REVIEW	Initials	Date
Engineering	SRB	6/27/97
Geology		
Surface		

LEASE TYPE: FEE

LEASE NUMBER: PATENTED

PROPOSED PRODUCING FORMATION: MNKP

RECEIVED AND/OR REVIEWED:

☒ Plat
☒ Bond: Federal ☐ State ☒ Fee ☐
(Number _____)
☒ Potash (Y/N)
☒ Oil shale (Y/N)
☒ Water permit
(Number COMMERCIAL SUPPLY)
☒ RDCC Review (Y/N)
(Date: _____)

LOCATION AND SITING:

____ R649-2-3. Unit: _____
____ R649-3-2. General.
____ R649-3-3. Exception.
____ Drilling Unit.
____ Board Cause no: _____
____ Date: _____
☒ Other - SWD well, R649-3-4

COMMENTS: Conf. status req. Casing stip. (collapse SF) needed.
Cement stip. needed. BOP OK. Surface agreement needed.

STIPULATIONS: 1. Statement of Basis

2. Surface agreement stip.

3. Because the well falls out of the standard "window" for
siting oil and gas wells, and because the intended use of
the well is for salt water disposal, the well ~~may~~ ^{shall} not
be completed for production ~~within~~ ^{from} any underground interval
unless approved by order of the Board of Oil, Gas and Mining
after proper notice and hearing.

4. (See attached page)

COUNTY: EMERY UAC: R649-3-2 & R649-3-3



DIVISION OF OIL, GAS AND MINING
APPLICATION FOR PERMIT TO DRILL
STATEMENT OF BASIS

Operator: TEXACO EXPLORATION & PRODUCTION, INC

Name & Number: SWD-#2

API Number: 43-015-30323

Location: 1/4, 1/4 NW, NW Sec. 14 T. 18 S R. 7 E

Geology/Ground Water:

High quality ground-water may be encountered in the surface alluvium. The surface casing will be set to a depth of 300' and cemented to surface. This should adequately protect any near-surface waters encountered. Water of differing qualities may also be encountered in the Ferron Sandstone and other formations down through the proposed injection zone (Navajo Formation). An intermediate casing will be set at approximately 2500 feet and cemented to surface. This casing will isolate all water zones encountered in the Mancos Formation. A 7 inch production casing will be set from surface to total depth and will be cemented in two stages to surface. This proposal should adequately protect all water zones encountered.

Reviewer: Dan Jarvis

DATE: June 12, 1997

Surface:

An onsite evaluation was done for the proposed location on June 5, 1997. Representatives for the surface owner and the operator were present during the onsite evaluation. This location drains directly towards Cottonwood Creek. Measures should be taken to protect the water course from degradation due to runoff, spills and erosion.

Reviewer: Brad Hill

Date: June 12, 1997

Conditions of Approval/Application for Permit to Drill:

1. Reserve pit is to be lined with a synthetic liner with a minimum thickness of 12 mils.
2. Location is to be bermed to prevent runoff from the location.
3. Drainage diversions are to be placed around the location.
4. A surface agreement or purchase if surface rights is needed prior to approval.

STATE OF UTAH
ONSITE PREDRILL EVALUATION
Division of Oil, Gas and Mining

OPERATOR: TEXACO EXPLORATION & PRODUCTION, INC.
WELL NAME & NUMBER: SWD-#2
API NUMBER: 43-015-30323
LEASE: FEE FIELD/UNIT: WILDCAT
LOCATION: 1/4, 1/4 NW, NW Sec: 14 TWP: 18S RNG: 7E 111 FNL 930 FWL
LEGAL WELL SITING: 460 F SEC. LINE; 460 F 1/4, 1/4 LINE; 920 F ANOTHER WELL.
GPS COORD (UTM): 12 490522 E 4345447 N
SURFACE OWNER: PACIFICORP (801) 220-2238

PARTICIPANTS

Brent Arnold-Pacificorp, Ron Wirth-Texaco

REGIONAL/LOCAL SETTING & TOPOGRAPHY

The proposed well is located on the western edge of the Wasatch Plateau physiographic province and within the Cottonwood Drainage. The location is on a very gentle south facing slope with low hills to the north which are backed by high cliffs. Evidence of sheetwash can be seen on and around the proposed location.

SURFACE USE PLAN

CURRENT SURFACE USE: Grazing and wildlife habitat.

PROPOSED SURFACE DISTURBANCE: A rectangular pad will be constructed with approximate dimensions of 250' X 225'. This will include an 145' X 65' X 8' reserve pit. An access road .2 miles long will be constructed to the pad.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: A producing well (Texaco #10-43, Section 10) is located within a 1 mile radius of the proposed well. There are also other wells proposed within a 1 mile radius. See GIS map in well file.

SOURCE OF CONSTRUCTION MATERIAL: Onsite materials will be used for construction.

ANCILLARY FACILITIES: None needed.

WASTE MANAGEMENT PLAN:

Drill cuttings are to be contained and buried in the reserve pit.
Produced water will be placed into a storage tank and hauled off of
location for disposal. Refuse will be contained while drilling and
hauled offsite for disposal. Chemical toilets will be used on
location.

ENVIRONMENTAL PARAMETERS

AFFECTED FLOODPLAINS AND/OR WETLANDS: The proposed location is
approximately .75 miles from Cottonwood Creek.

FLORA/FAUNA: Rice grass, Sagebrush, Rabbit brush, sparse Juniper/Deer,
rabbits, rodents, insects, birds.

SOIL TYPE AND CHARACTERISTICS: Clayey silt-sand with abundant rock
fragments, gravel and cobbles.

SURFACE FORMATION & CHARACTERISTICS: Quaternary alluvium derived from
the Mancos Shale and it's associated and overlying sandstones.

EROSION/SEDIMENTATION/STABILITY: No active sedimentation or erosion at
present. The location should be stable.

PALEONTOLOGICAL POTENTIAL: None observed.

RESERVE PIT

CHARACTERISTICS: A rectangular pit with dimensions of 145' X 65' X 8'
will be constructed within the boundaries of the well pad.

LINER REQUIREMENTS (Site Ranking Form attached): The reserve pit is to
be lined with a synthetic liner with a minimum thickness of 12 mils.

SURFACE RESTORATION/RECLAMATION PLAN

Restoration will be done as specified by the surface owner.

SURFACE AGREEMENT: The surface agreement has not been signed at the
time of the onsite evaluation. Both parties indicate that an
agreement will be reached and signed.

CULTURAL RESOURCES/ARCHAEOLOGY: Not required.

OTHER OBSERVATIONS/COMMENTS

Texaco is negotiating to purchase this property from Pacificorp.

ATTACHMENTS

Photographs will be placed on file.

Brad Hill
DOGM REPRESENTATIVE

June 5, 1997
DATE/TIME

**Evaluation Ranking Criteria and Ranking Score
For Reserve and Onsite Pit Liner Requirements**

<u>Site-Specific Factors</u>	<u>Ranking</u>	<u>Site Ranking</u>
Distance to Groundwater (feet)		
>200	0	
100 to 200	5	
75 to 100	10	
25 to 75	15	
<25 or recharge area	20	<u>5</u>
Distance to Surf. Water (feet)		
>1000	0	
300 to 1000	2	
200 to 300	10	
100 to 200(location drains directly	15	<u>10</u>
< 100 towards Cottonwood Crk.)	20	
Distance to Nearest Municipal Well (feet)		
>5280		
1320 to 5280	0	
500 to 1320	5	
<500	10	
	20	<u>0</u>
Distance to Other Wells (feet)		
>1320	0	
300 to 1320	10	
<300	20	<u>0</u>
Native Soil Type		
Low permeability	0	
Mod. permeability	10	
High permeability	20	<u>15</u>
Fluid Type		
Air/mist	0	
Fresh Water	5	
TDS >5000 and <10000	10	
TDS >10000 or Oil Base Mud Fluid	15	
containing significant levels of		<u>0</u>
hazardous constituents	20	
Drill Cuttings		
Normal Rock	0	
Salt or detrimental	10	<u>0</u>
Annual Precipitation (inches)		
<10	0	
10 to 20	5	
>20	10	<u>5</u>
Affected Populations		
<10	0	
10 to 30	6	
30 to 50	8	
>50	10	<u>0</u>
Presence of Nearby Utility		
Conduits		
Not Present	0	
Unknown	10	
Present	15	<u> </u>

Final Score:35

6/26/97

SRB

APD EvaluationTexaco - SWD 2

I. Casing program

A. Intermed. 9 5/8", 36 #, K-55 @ 2500'

Air drilled. Max. BHP (estimated) = $(0.433)(2500) = 1083$ psiBurst str. = 3520 psi Burst SF = $\frac{3520}{1083} = \underline{3.25}$ OKCollapse str. = 2020 psi Collapse SF = $\frac{2020}{1083} = \underline{1.87}$ OKWt. of pipe = $(2500)(36) = 90,000$ #

Jt. str. (assume STC) = 423,000 #

Tension SF = $\frac{423}{90} = \underline{4.70}$ OK

B. Prod. 7", 23 #, N-80 @ 7345' (TD)

Max. mud. wt. = 9.0 ppq

Max. BHP (calc.) = $(0.052)(9.0)(7345) = 3437$ psiBurst str. = 6340 psi Burst SF = $\frac{6340}{3437} = \underline{1.84}$ OKCollapse str. = 3830 psi Collapse SF = $\frac{3830}{3437} = \underline{1.11}$ OKWt. of pipe = $(23)(7345) = 168,935$ #

Jt. str. (assume LTC) = 442,000 #

Tension SF = $\frac{442,000}{168,935} = \underline{2.62}$ OK

II. Cement program

A. Intermed. casing

Lead stage yield = $3.98 \frac{\text{ft}^3}{\text{sk}}$ (240 sk)Tail stage yield = $1.61 \frac{\text{ft}^3}{\text{sk}}$ (160 sk)

$$\text{Vol. \& height bet. csg. \& hole} = 0.6264 \text{ ft}^3/\text{lin. ft.} \\ (100\% \text{ excess})$$

$$\text{Lead cement height} = \frac{(3.98)(240)}{0.6264} = 1,525'$$

$$\text{Tail cement height} = \frac{(1.61)(160)}{0.6264} = 411'$$

$$\text{Total} = 1,936'$$

B. Production Casing

$$\text{Lead stage yield} = 3.98 \text{ ft}^3/\text{sk} \quad (255 \text{ sk})$$

$$\text{Tail stage yield} = 1.15 \text{ ft}^3/\text{sk} \quad (320 \text{ sk})$$

$$\text{Vol. bet. csg. \& hole} = 0.3006 \text{ ft}^3/\text{lin. ft.} \\ (100\% \text{ excess})$$

$$\text{Lead cement height} = \frac{(3.98)(255)}{0.3006} = 3,376'$$

$$\text{Tail cement height} = \frac{(1.15)(320)}{0.3006} = 1,224'$$

$$\text{Total} = 4,600'$$

6/27/97

IRB

Texaco - SWD No. 2

Conditions of Approval (continued)

4. Prior to injection of fluid into the well, the operator shall apply for and obtain proper approval from the Division as required by Rule R649-5-2 et seq. of the Oil and Gas Conservation General Rules.



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

1594 West North Temple, Suite 1210

Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

June 27, 1997

Texaco Exploration & Production, Inc.
3300 North Butler Avenue, Suite 100
Farmington, New Mexico 87401

Re: SWD #2 Well, 111' FNL, 930' FWL, NW NW, Sec. 14,
T. 18 S., R. 7 E., Emery County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-015-30323.

Sincerely,

Lowell P. Braxton
Deputy Director

lwp

Enclosures

cc: Emery County Assessor

Bureau of Land Management, Moab District Office

Operator: Texaco Exploration & Producing, Inc.
Well Name & Number: SWD #2
API Number: 43-015-30323
Lease: FEE
Location: NW NW Sec. 14 T. 18 S. R. 7 E.

Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801) 538-5336.

Notify the Division prior to commencing operations to plug and abandon the well. Contact John R. Baza (801) 538-5334 or Mike Hebertson at (801) 538-5333.

3. Reporting Requirements

All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis dated June 12, 1997 (copy attached).

5. Pursuant to Utah Admin. R. 649-3-34 Well Site Restoration, an operator shall make a reasonable effort to establish a surface use agreement with the owner of the fee or private land included in the wellsite prior to the commencement of drilling a new well, re-entering an abandoned well or assuming operatorship of an

Page 2

Texaco Exploration & Production, Inc.

SWD #2

June 27, 1997

existing well. Accordingly, Texaco Exploration & Production, Inc. shall submit an affidavit to the Division stating whether an appropriate surface use agreement has been established with and approved by the surface landowner of the wellsite.

6. Because the well falls out of the standard "window" for siting oil and gas wells, and because the intended use of the well is for salt water disposal, the well shall not be completed for production from any underground interval unless approved by order of the Board of Oil, Gas and Mining after proper notice and hearing.
7. Prior to injection of fluid into the well, the operator shall apply for and obtain proper approval from the Division as required by Rule R649-5-2 at seq. of the Oil and Gas Conservation General Rules.

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER WATER DISPOSAL	5. Lease Designation and Serial Number: FEE
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.	6. If Indian, Allottee or Tribe Name:
3. Address and Telephone Number: 3300 N. Butler Ave., Suite 100 Farmington NM 87401 (505) 325-4397	7. Unit Agreement Name:
Location of Well Footages: 386' NORTH 767' WEST QQ, Sec, T., R., M: NE , NW , 14 , T18S , R7E	8. Well Name and Number: FEE SWD-2
County: EMERY State: UT	9. API Well Number: 4301530323
10. Field and Pool, or Wildcat: WILDCAT	

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT

(Submit in Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input checked="" type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> OTHER <u>LOCATION CHANGE</u> | |

Approximate date work will start _____

SUBSEQUENT REPORT

(Submit Original Form Only)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER _____ | |

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.

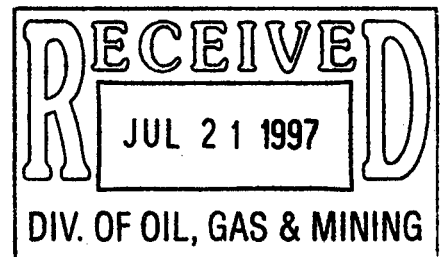
* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO EXPLORATION & PRODUCTION INC. PROPOSES THE FOLLOWING ON THE SUBJECT WELL:

CHANGE THE LOCATION FROM THE PREVIOUSLY SUBMITTED LOCATION TO:

386' FNL / 767' FWL Sec. 14, T 18 S / R 7 E



13. Name and Signature Al Davis TITLE Operating Unit Manager DATE 7/16/97

(This space for State use only)

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 7/23/97
BY: [Signature]

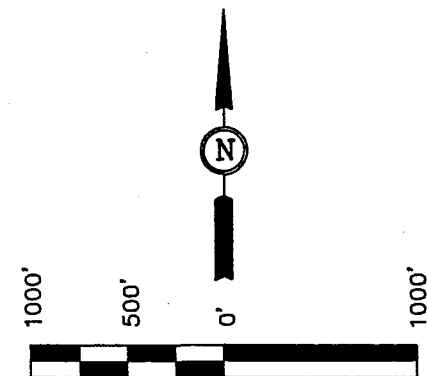
T18S, R7E, S.L.B.&M.

TEXACO EXPLR. & PROD., INC.

Well location, S.W.D. #2, located as shown in the NW 1/4 NW 1/4 of Section 14, T18S, R7E, S.L.B.&M. Emery County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION AT A ROAD INTERSECTION IN THE SE 1/4 OF SECTION 14, T18S, R7E, S.L.B.&M. TAKEN FROM THE RED POINT QUADRANGLE, UTAH, EMERY COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6001 FEET.



SCALE

CERTIFICATE

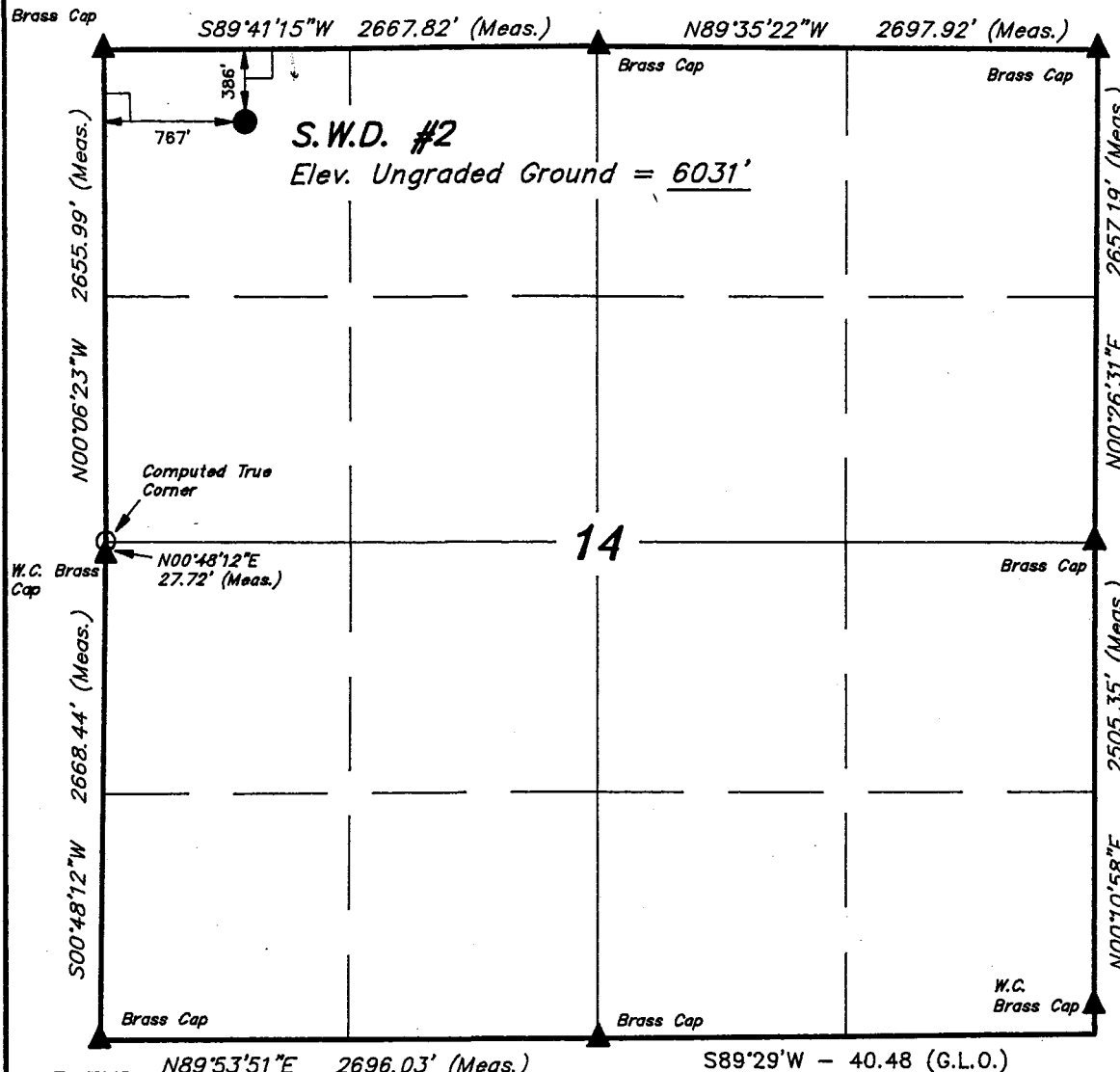
THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME, OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

Revised: 07-11-97 D.R.B.

UNTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(801) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 04-10-97	DATE DRAWN: 04-18-97
PARTY B.B. D.R. D.R.B.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE TEXACO EXPLR. & PROD., INC.	



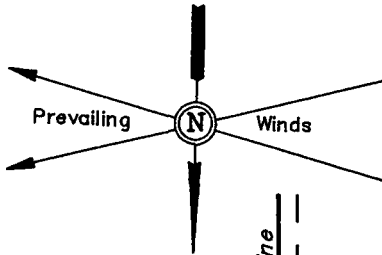
TEXACO EXPLR. & PROD., INC.

LOCATION LAYOUT FOR

S.W.D. #2

SECTION 14, T18S, R7E, S.L.B.&M.

386' FNL 767' FWL

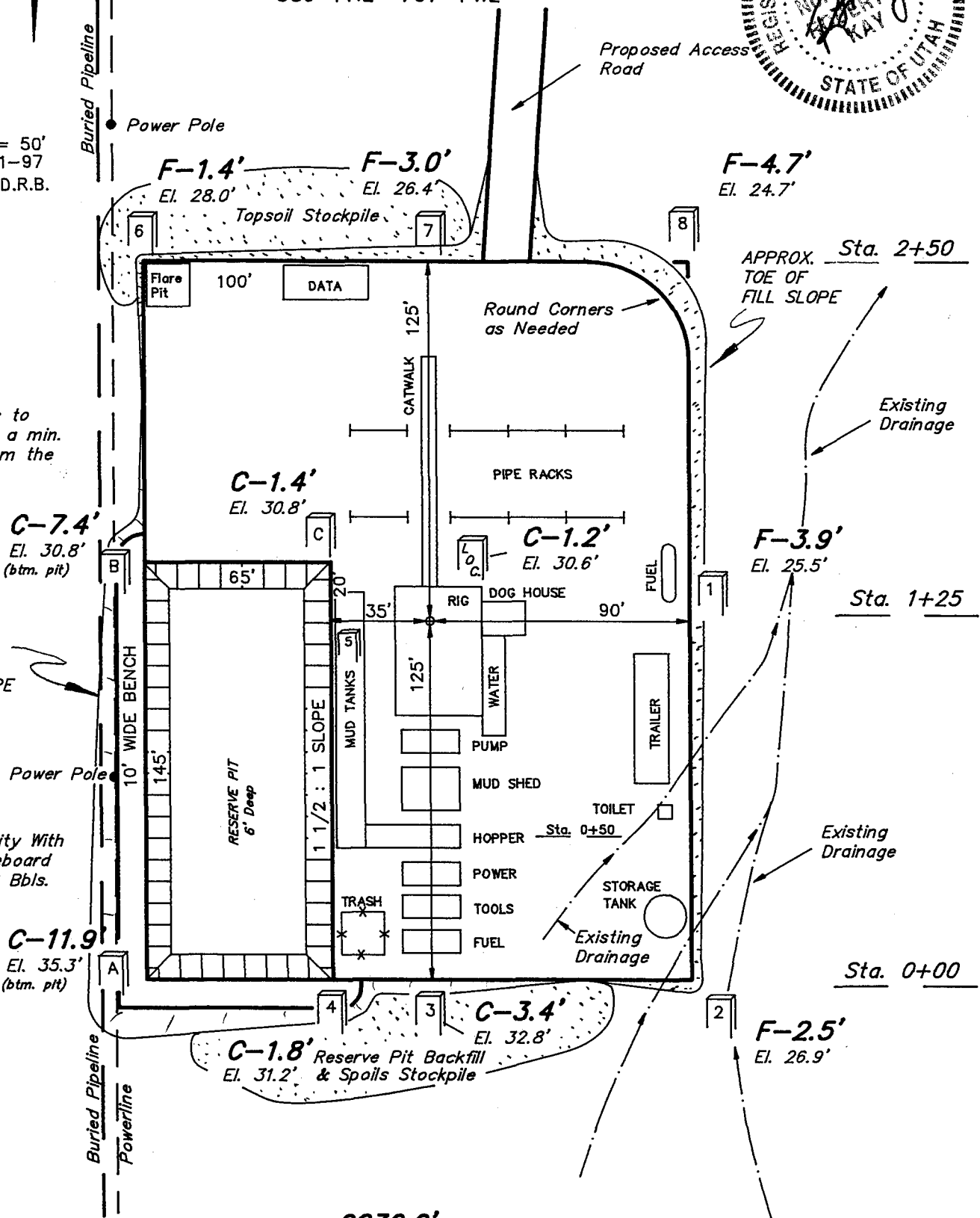


SCALE: 1" = 50'
DATE: 07-11-97
DRAWN BY: D.R.B.

Note:
Flare Pit is to be located a min. of 100' from the Well Head.

APPROX. TOP OF CUT SLOPE

Note:
Pit Capacity With 2' of Freeboard is $\pm 5,030$ Bbls.



Elev. Ungraded Ground at Location Stake = 6030.6'

Elev. Graded Ground at Location Stake = 6029.4'

UINTAH ENGINEERING & LAND SURVEYING

85 So. 200 East

Vernal, Utah (801) 789-1017

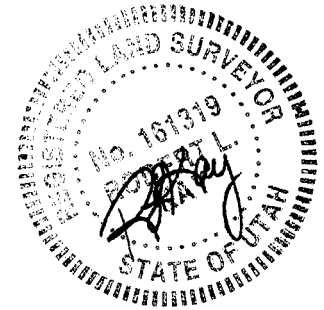
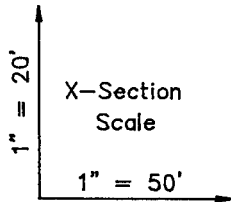
TEXACO EXPLR. & PROD., INC.

TYPICAL CROSS SECTIONS FOR

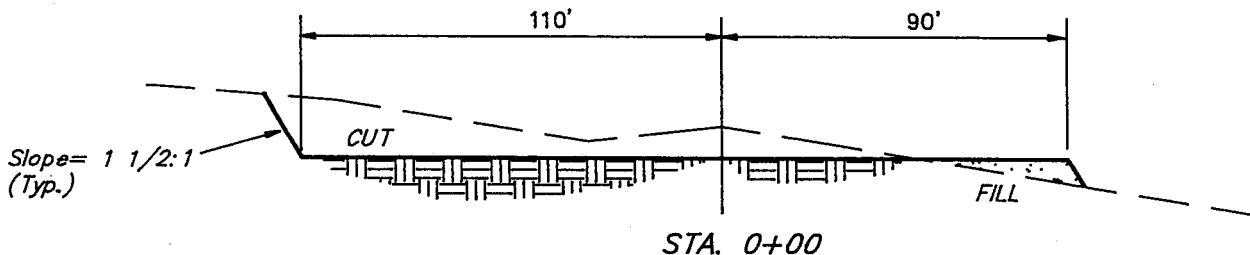
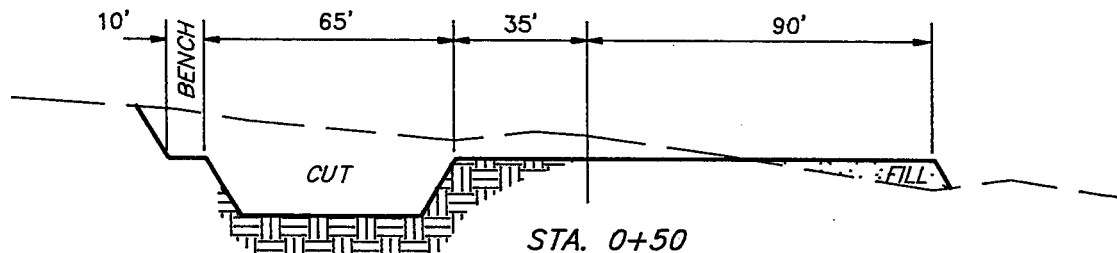
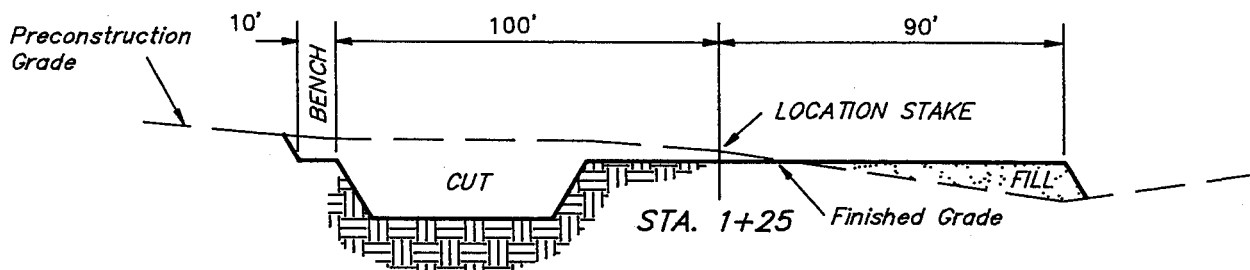
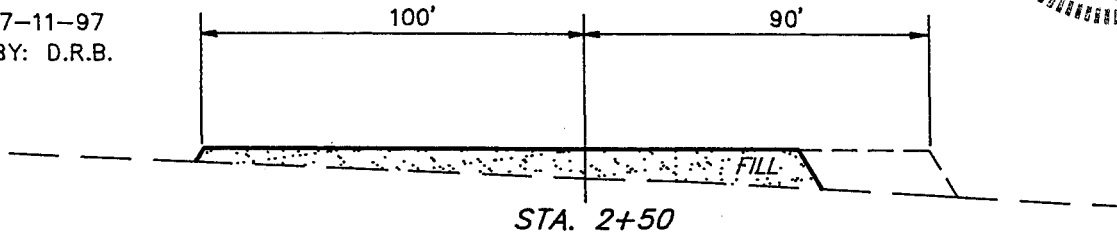
S.W.D. #2

SECTION 14, T18S, R7E, S.L.B.&M.

386' FNL 767' FWL



DATE: 07-11-97
DRAWN BY: D.R.B.



APPROXIMATE YARDAGES

CUT

(6") Topsoil Stripping = 880 Cu. Yds.

Remaining Location = 3,390 Cu. Yds.

TOTAL CUT = 4,270 CU.YDS.

FILL = 2,410 CU.YDS.

EXCESS MATERIAL AFTER
5% COMPACTION

= 1,730 Cu. Yds.

Topsoil & Pit Backfill
(1/2 Pit Vol.)

= 1,730 Cu. Yds.

EXCESS UNBALANCE
(After Rehabilitation)

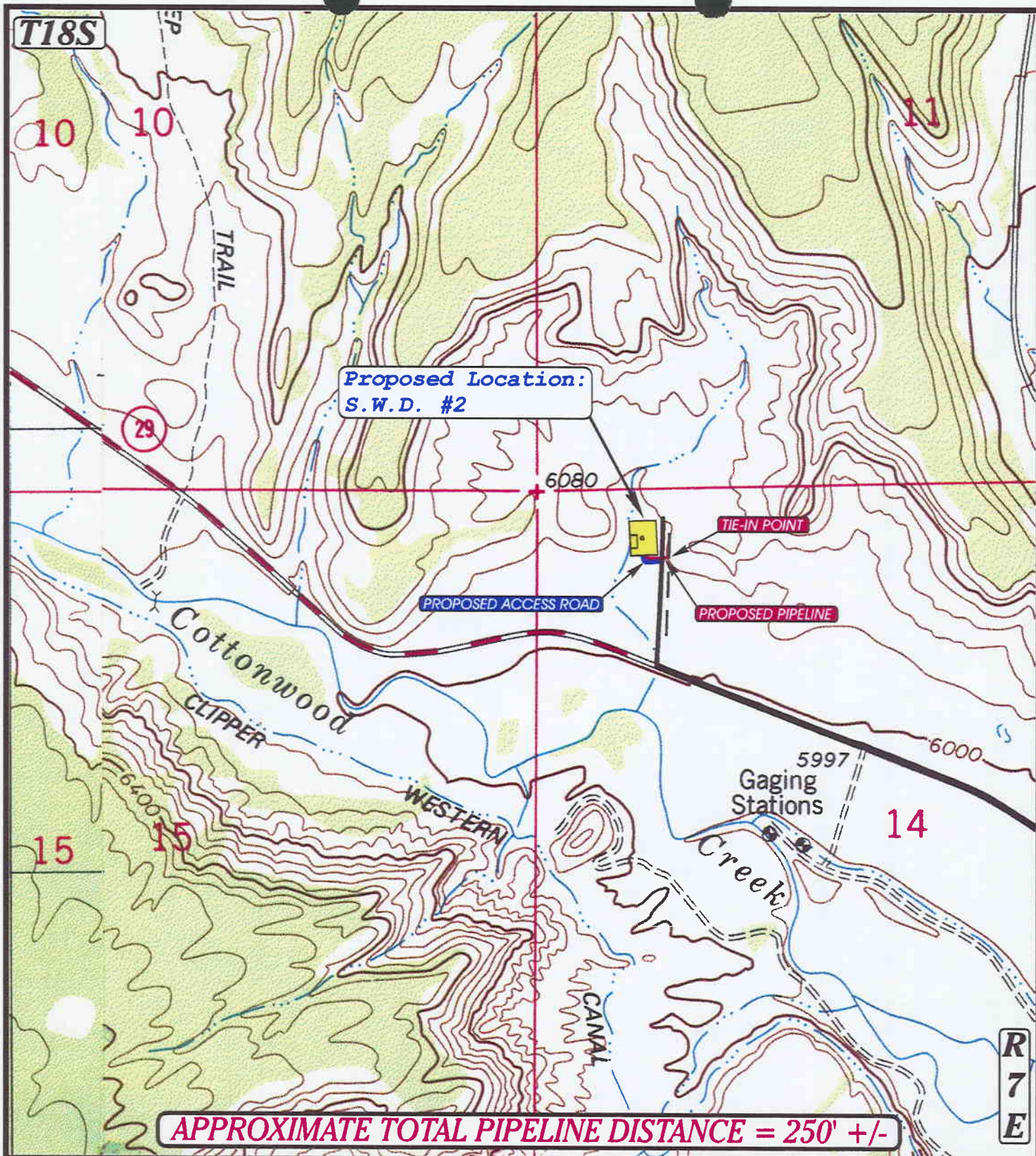
= 0 Cu. Yds.

UINTAH ENGINEERING & LAND SURVEYING

85 So. 200 East Vernal, Utah (801) 789-1017



SCALE: 1" = 2000'



U
E
L
S

**TOPOGRAPHIC
MAP "C"**

— — — Existing Pipeline
- - - Proposed Pipeline



SCALE: 1" = 1000'

TEXACO EXPLR. & PROD., INC.

**S.W.D. #2
SECTION 14, T18S, R7E, S.L.B.&M.**

DATE: 4-14-97 J.L.G.
REVISED: 7-7-97 J.L.G.

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING**CONFIDENTIAL****SUNDRY NOTICES AND REPORTS ON WELLS**

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER WATER DISPOSAL	5. Lease Designation and Serial Number: FEE
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.	6. If Indian, Allottee or Tribe Name:
3. Address and Telephone Number: 3300 N. Butler Ave., Suite 100 Farmington NM 87401 (505) 325-4397	7. Unit Agreement Name:
	8. Well Name and Number: FEE SWD-2
	9. API Well Number: 4301530323
	10. Field and Pool, or Wildcat: WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST
Q. Sec., T., R., M.: NE, NW, 14, T18S, R7ECounty: EMERY
State: UT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

CONFIDENTIAL

NOTICE OF INTENT

(Submit in Duplicate)

- | | |
|---|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input checked="" type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> OTHER CEMENT CHANGE | |

Approximate date work will start _____

SUBSEQUENT REPORT

(Submit Original Form Only)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER _____ | |

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO EXPLORATION & PRODUCTION INC. REQUESTS APPROVAL OF THE FOLLOWING ON THE SUBJECT WELL:

TEXACO PROPOSES TO MODIFY THE PREVIOUSLY APPROVED CEMENTING PLAN ON THE INTERMEDIATE CASING STRING. THE PREVIOUS PLAN WAS TO ATTEMPT TO CIRCULATE CEMENT BEHIND PIPE TO SURFACE. TEXACO PROPOSES TO ATTEMPT TO LIFT CEMENT 500' ABOVE THE TOP OF THE FERRON FM. USING 200 SX 'RFC' CEMENT (1.61 CU.FT./SX). THE EXPECTED FERRON TOP IS 2050'. THE ANTICIPATED CASING POINT IS AT 2500'. TEXACO WILL RUN A TEMPERATURE SURVEY TO DETERMINE CEMENT TOP, PRIOR TO DRILLING AHEAD.

AS USUAL, TEXACO APPRECIATES THE TIME ASSOCIATED WITH THIS PROJECT FROM U.D.O.G.M.

13.

Name and Signature

Al Davis

TITLE

Operating Unit Manager

DATE

8/6/97

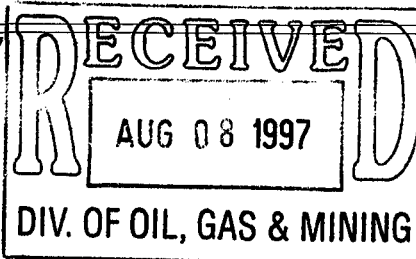
(This space for State use only)

Verbal approval granted by SRB 8/5/97

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

DATE: 9/4/97

BY: [Signature]



DIVISION OF OIL, GAS AND MINING

CONFIDENTIAL

SPUDDING INFORMATION

Name of Company: TEXACO E & P

Well Name: SWD # 2

Api No. 43-015-30323

Section: 14 Township: 18S Range: 7E County: EMERY

Drilling Contractor: _____

Rig # _____

SPUDDED:

Date: 8/4/97

Time: _____

How: DRY HOLE

Drilling will commence: _____

Reported by: RANDY MAI

Telephone NO.: 1-801-636-6816

Date: 8/11/97 Signed: JLT

J

CONFIDENTIAL

**STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING**

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER WATER DISPOSAL		5. Lease Designation and Serial Number: FEE
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.		6. If Indian, Allottee or Tribe Name:
3. Address and Telephone Number: 3300 N. Butler Ave., Suite 100 Farmington NM 87401 (505) 325-4397		7. Unit Agreement Name:
Location of Well Footages: 386' NORTH 767' WEST QQ, Sec.T.,R.,M: NE , NW , 14 , T18S , R7E		8. Well Name and Number: SWD-2
		9. API Well Number: 4301530323
		10. Field and Pool, or Wildcat: WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST

County: EMERY

QQ, Sec.T.,R.,M: NE , NW , 14 , T18S , R7E

State: UT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT

(Submit in Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER _____ | |

Approximate date work will start _____

SUBSEQUENT REPORT

(Submit Original Form Only)

- | | |
|---|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> OTHER SPUD & SURFACE C | |

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.

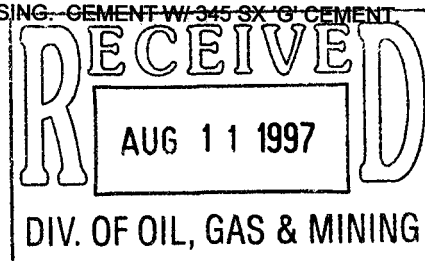
* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO EXPLORATION & PRODUCTION INC. HAS COMPLETED THE FOLLOWING ON THE SUBJECT WELL:

8/3/97 - WITH RATHOLE MACHINE, DRILL 40' OF 30" HOLE. SET 20" CONDUCTOR PIPE TO 40'. CEMENT W/ 160 SX 'G' CEMENT.

8/4/97 - WITH RATHOLE RIG, DRILL 17-1/2" HOLE TO 290'. RUN 6 JTS. 13-3/8", 48#, H-40 STC CASING. CEMENT W/ 345 SX 'G' CEMENT. CIRCULATE 18 BBL. TO SURFACE. RIG UP DRILL RIG. NU BOPS.

CONFIDENTIAL

13. Name and Signature Al Davis *[Signature]* TITLE Operating Unit Manager DATE 8/7/97

(This space for State use only)

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well ☐ OIL WELL ☐ GAS WELL ☒ OTHER WATER DISPOSAL

2. Name of Operator
TEXACO EXPLORATION & PRODUCTION, INC.

3. Address and Telephone Number:

3300 N. Butler Ave., Suite 100 Farmington NM 87401 325-4397

5. Lease Designation and Serial Number:
FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Well Name and Number:
SWD-2

9. API Well Number:
4301530323

10. Field and Pool, or Wildcat:
WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST

QQ, Sec, T., R., M: NE, NW, 14, T18S, R7E

County: EMERY

State: UT

CONFIDENTIAL

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT

(Submit in Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER | |

SUBSEQUENT REPORT

(Submit Original Form Only)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> OTHER | T.D. & CASING SET |

Date of work completion 9/16/97

Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

CONFIDENTIAL

Approximate date work will start

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E. & P., INC. HAS COMPLETED THE FOLLOWING ON THE SUBJECT WELL:

8/6/97 - TEST BOP EQUIPMENT TO 2000 PSI, OK. W/ 12-1/4" BIT, TAG CEMENT AT 239'. DRILL CEMENT AND FORMATION TO 3100'.
8/15/97 - CIRCULATE HOLE TO RUN INTERMEDIATE CASING. RUN 76 JTS 9-5/8", 36#, J-55 CASING. SET AT 3100'. CEMENT FIRST STAGE W/ 200 SX 'RFC' 10-1 CEMENT(14.2 PPG). OPEN D.V. TOOL AT 526' AND CEMENT 2ND STAGE W/ 100 SX 'RFC' 10-1 CEMENT(14.2 PPG). NU 3000 PSI BOP. DRILL W/ 8-3/4" BIT, DV TOOL, FLOAT COLLAR AND CEMENT TO 3100'. DRILL FORMATION TO 7590'. HIT T.D. (7590') ON 9/13/97.
9/13/97 - CONDITION HOLE FOR LOGS. RUN OPEN HOLE LOGS. CONDITION HOLE FOR CASING.
9/15/97 - RUN 174 JTS 7", 23# N-80 CASING. SET AT 7589'. CEMENT FIRST STAGE W/ 210 SX 'G' CEMENT (15.8 PPG, 1.15 CU. FT./SX) W/ .1% B-71 ADDITIVE. OPEN D.V. TOOL AT 6524' AND CEMENT 2ND STAGE W/ 775 SX (LEAD) 50-50 POZ CEMENT W/ 10% D-44, 8% D-20 (12.5 PPG, 1.91 CU. FT./SX). FOLLOW W/ 90 SX (TAIL) 'G' CEMENT (15.8 PPG, 1.15 CU. FT./SX).
9/16/97 - NIPPLE DOWN BOP. SET CASING SLIPS. INSTALL WELLHEAD. RELEASE RIG.

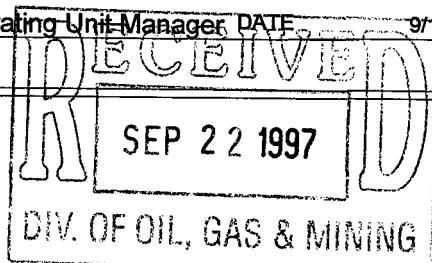
13.

Name and Signature

Allen Davis

TITLE Operating Unit Manager DATE 9/17/97

(This space for State use only)



12/10/97

17:40

CHEMTECH - 17007485397

NO. 846

D0

CHEMTECH-FORD



47-117-04-145094-1-2

To: Texaco Exploration & Production Inc
P.O. Box 618
Orangeville, UT 84537

Date: 12/ 9/97

Group #: 19790
Lab #: 97-U013029
Sample Desc: SWD No.2 7195-7296'

Date Sampled: 11/14/97
Date Submitted: 11/21/97

Time Sampled: 16:55
Time Received: 14:00

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO ₃ , mg/L	1,820	1	11/26/97 14:00	SM 2320B	TM
Carbonate as CO ₃ , mg/L	< 3	3	11/26/97 14:00	SM 2320B	TM
Hydroxide as OH, mg/L	< 3	3	11/26/97 14:00	SM 2320B	TM
Alkalinity, Total (CaCO ₃), mg/L	1,490	1	11/26/97 14:00	SM 2320B	TM
Chloride (D), mg/L	4,690	16.7	12/ 1/97 12:00	EPA 325.3	TM
Conductance, Specific, umhos/cm	18,800	0.1	11/24/97 10:06	EPA 120.1	KRF
Hardness, EDTA Titration, mg/L	467	50	12/ 1/97 14:00	EPA 130.2	TM
Hardness Index: Hard Water					
Nitrate, Nitrogen, mg/L	< 0.08	0.08	11/26/97 11:53	EPA 353.1	LH
Nitrite, Nitrogen, mg/L	0.005	0.005	11/21/97 14:30	EPA 354.1	TM
Nitrate/Nitrite-Nitrogen, mg/L	< 0.08	0.08	11/26/97 11:53	EPA 353.1	LH
pH, units	6.80	0.05	11/21/97 14:10	EPA 150.1	LS
Specific Gravity, g/ml	1.010	0.005	12/ 2/97 11:15	EPA 1311	RH
Sulfate, mg/L	2,140	500	12/ 5/97 10:30	EPA 375.4	TM
Total Dissolved Solids, mg/L	13,100	25	11/28/97 12:45	EPA 160.1	LS
Calcium (T), as Ca, mg/L	126	0.1	12/ 1/97 12:16	EPA 200.7	LH
Iron (T), as Fe, mg/L	97.8	0.02	12/ 1/97 12:16	EPA 200.7	LH
Magnesium (T), as Mg, mg/L	19.1	0.1	12/ 1/97 12:16	EPA 200.7	LH
Potassium (T), as K, mg/L	248	0.1	12/ 1/97 12:16	EPA 200.7	LH
Sodium (T), as Na, mg/L	4,340	1	12/ 1/97 12:16	EPA 200.7	LH
Cation, meq/L	203.9				

Approved By: R2

DEC 10 '97 13:41
1271000 17740

CHEMTECH - 17007485397

P.3/6

NO. 846

003

CHEMTECH-FORD

ANALYTICAL LABORATORY



Date: 12/ 9/97

To: Texaco Exploration & Production Inc
P.O. Box 618
Orangeville, UT 84537

Group #: 19790
Lab #: 97-U013029
Sample Desc: SWD No.2 7195-7296

Date Sampled: 11/14/97
Date Submitted: 11/21/97

Time Sampled: 16:55
Time Received: 14:00

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Anion, meq/L	206.7				
% Difference,	0.68				
Receiving Temperature, C	16.7		11/21/97 14:00		RCG

NOTE: Sample submitted not on ice.
Sample submitted past holding time for NO2.

Approved By:

{generic.rpt}

8100 SOUTH STRATLER
SALT LAKE CITY, UT 84111-0007

CHEMTECH-FORD



To: Texaco Exploration & Production Inc
P.O. Box 618
Orangeville, UT 84537

Date: 12/ 9/97

Group #: 19790
Lab #: 97-U013030
Sample Desc: SWD No.2 7078-7162'

Date Sampled: 11/20/97
Date Submitted: 11/21/97

Time Sampled: 17:05
Time Received: 14:00

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO ₃ , mg/L	< 1	1	12/ 2/97 12:00	SM 2320B	TM
Carbonate as CO ₃ , mg/L	< 1	1	12/ 2/97 12:00	SM 2320B	TM
Hydroxide as OH, mg/L	< 1	1	12/ 2/97 12:00	SM 2320B	TM
Alkalinity, Total (CaCO ₃), mg/L	< 1	1	12/ 2/97 12:00	SM 2320B	TM
Chloride (D), mg/L	12,900	50	12/ 1/97 12:00	EPA 325.3	TM
Conductance, Specific, umhos/cm	37,989	0.1	11/24/97 10:06	EPA 120.1	KRF
Hardness, EDTA Titration, mg/L	7,070	500	12/ 1/97 14:00	EPA 130.2	TM
Hardness Index: Very Hard Water					
Nitrate, Nitrogen, mg/L	< 0.08	0.08	11/26/97 11:53	EPA 353.1	LH
Nitrite, Nitrogen, mg/L	< 0.005	0.003	11/21/97 14:30	EPA 354.1	TM
Nitrate/Nitrite-Nitrogen, mg/L	< 0.08	0.08	11/26/97 11:53	EPA 353.1	LH
pH, units	2.00	0.05	11/21/97 14:10	EPA 150.1	LS
Specific Gravity, g/ml	1.010	0.005	12/ 2/97 11:15	EPA 1311	RH
Sulfate, mg/L	1,800	500	12/ 5/97 10:30	EPA 375.4	TM
Total Dissolved Solids, mg/L	24,700	250	12/ 4/97 10:15	EPA 160.1	LS
Calcium (T), as Ca, mg/L	1,580	0.1	12/ 8/97 14:48	EPA 200.7	LH
Iron (T), as Fe, mg/L	495	0.02	12/ 8/97 14:48	EPA 200.7	LH
Magnesium (T), as Mg, mg/L	537	0.2	12/ 8/97 14:48	EPA 200.7	LH
Potassium (T), as K, mg/L	543	0.1	12/ 8/97 14:48	EPA 200.7	LH
Sodium (T), as Na, mg/L	3,410	1	12/ 8/97 14:48	EPA 200.7	LH
Cation, meq/L	311.8				

Approved By:

(generic.rpt)

CHEMTECH-FORD



Date: 12/ 9/97

To: Texaco Exploration & Production Inc
P.O. Box 618
Orangeville, UT 84537

Group #: 19790
Lab #: 97-U013030
Sample Desc: SWD No.2 7078-7162'

Date Sampled: 11/20/97
Date Submitted: 11/21/97

Time Sampled: 17:05
Time Received: 14:00

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Anion, meq/L	401.4				
% Difference,	12.60				
Receiving Temperature, C	16.7		11/21/97 14:00		RCG

NOTE: Sample submitted not on ice.
Sample submitted past holding time for NO2.

Cation Sum increases to 363.9 meq/L when aluminum
and zinc are included. Using the new cation sum,
the cation/anion balance equals 4.96%

Approved By: 

CHEMTECH - FORD ANALYTICAL LABORATORY

COMPANY:

TEXACO

ADDRESS:

PO Box 618

CITY/STATE/ZIP:

Orangerville, UT 84537

PHONE #:

801-748-5396 FAX #:

801-748-5397

CO. CONTACT:

Robert Schmitt

PROJECT ID:

SWA No. 2

BILLING ADDRESS:

PO Box 618

BILLING CITY/STATE/ZIP:

Orangerville, UT 84537

P.O. #:

TURNAROUND REQD.:

ASAP

*expedited turnaround subject to additional charge

ANALYSIS REQUEST FORM

WRO
PUSH TDS
on #1 Hold Time!

13026
30

SAMPLE LOCATION			SAMPLE DATE	SAMPLE TIME	Number of Containers	MATRIX															ANALYTES REQUESTED														
						Drinking Water	Water	Soil / Solid (circle)	Sludge	Oil	Other (specify)	pH	Cond	TDS	SPR	GRV	CH	IO3	CU	W	NO3	NO2	PO4	Fe	Ag	Se	As	Mo	Co	Cr	NH4	NO2			
1.	SWA No. 2	7195'-7296'	11/14/97	4:55 PM	1		X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
2.	SWA No. 2	7074'-7162'	11/24/97	5:05 PM	1		X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
3.																																			
4.																																			
5.																																			
6.																																			
7.																																			
8.																																			
9.																																			
10.																																			

Sampled by: (print) Robert Schmitt Sampled by: (signature) [Signature] Receiving Temp. (C):

Special Instructions: #1 sample past holding time for NO2

Relinquished by: (signature)	Received by: (signature)	Date/Time	Comments
<u>[Signature]</u>	<u>[Signature]</u>	<u>11/21/97 @ 1400</u>	
Relinquished by: (signature)	Received by: (signature)	Date/Time	Comments
Relinquished by: (signature)	Received by: (signature)	Date/Time	Comments

NET 30 DAYS: 1.5% PER MONTH INTEREST CHARGE (18% A.P.R.)

CUSTOMER AGREES TO PAY COLLECTION COSTS AND ATTORNEY'S FEES

5100 SOUTH STRATLER AVENUE,
SALT LAKE CITY, UT 84107

OFFICE: (801) 262-7299

FAX: (801) 262-7378

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: OIL ☐ GAS ☐ DRY ☒ OTHER DISPOSAL WELL
WELL WELL1b. Type of Completion
NEW ☒ WORKO ☐ DEEP ☐ PLUG ☐ DIFF. ☐ OTHER
WELL VER EN BACK RESVR.2. Name of Operator
TEXACO EXPLORATION & PRODUCTION, INC.3. Address and Telephone No.
3300 N. Butler Ave., Suite 100 Farmington NM 87401 325-4397

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At Surface

Unit Letter D : 386' Feet From The NORTH Line and 767' Feet From The WEST Line

At top prod. interval reported below

At Total Depth

14. API No.
4301530323

Date Issued

12. County

EMERY

13. State

UT

15. Date Spudded

8/3/97

16. Date T.D. Reached

9/13/97

17. Date Compl. (Ready to Prod.)

12/4/97

(Plug Abd)

18. Elevations (Show whether DF, GR, RT, GR, etc.)

6041'

19. Elev. Casinhead

20. Total Depth, MD & TVD

7590

21. Plug Back T.D., MD & TVD

7460'

22. If Multiple Compl., How Many*

1

23. Intervals Rotary Tools

Drilled By -->

XX

CableTools

24. Producing Interval(s), Of This Completion -- Top, Bottom, Name (MD and TVD)*

NAVAJO FM 7078'-7296' (GROSS INTERVAL)

25. Was Directional Survey Made

YES

26. Type Electric and Other Logs Run

MECHANICAL SIDEWALL CORING TOYKE
NEUT. DENSITY / INDUCTION / SONIC, CEMENT MAPPING TOOL - 9-23-97

27. Was Well Cored

Yes ☐ No ☒

(Submit

Yes ☐ No ☒

(See Reverse Side)

28.

CASING RECORD (Report all Strings set in well)

CASING SIZE & GRADE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENT RECORD	AMOUNT PULLED
13-3/8"	48#	290'	17-1/2"	345 SX	
9-5/8"	36#	3100'	12-1/4"	300 SX	
7"	23#	7589'	8-3/4"	1075 SX	

29.

LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					3-1/2"	7055'	7055'

30.

TUBING RECORD

31. Perforation record (interval, size, and number)

7078' - 7086' 4 SPF, 0.45" HOLES

7098' - 7162'

7195' - 7296'

32. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
7078'-7162'	3850 GAL 7-1/2% HCL
7195'-7296'	5300 GAL 7-1/2% HCL

CONFIDENTIAL

33.

PRODUCTION

Date First Production		Production Method (Flowing, gas lift, pumping - size and type pump)					Well Status (Prod. or Shut-in) SHUT-IN	
Date of Test	Hours tested	Choke Size	Prod'n For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio	
Flow Tubing Press.	Casing Pressure	Calculated 24- Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API -(Corr.)		

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

35. List of Attachments

36. I hereby certify that the foregoing is true and correct

SIGNATURE

TYPE OR PRINT NAME

TITLE

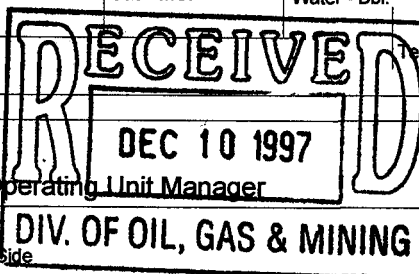
Operating Unit Manager

DATE

12/4/97

Allen Davis

See Spaces for Additional Data on Reverse Side



INSTRUCTIONS

This form should be completed in compliance with Utah Oil and Gas Conservation General Rules. If not a file prior to this time, all logs, tests, and directional surveys as required by Utah Rules should be attached and submitted with this report.

ITEM 18: Indicate which elevation is used as reference for depth measurements given in other spaces on this form and on any attachments.

ITEMS 22 and 24: If this well is completed for separate production from more than one interval zone, (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

ITEM 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

ITEM 33 Submit a separate completion report on this form for each interval to be separately produced (see instruction for item 22 and 24 above).

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
				TUNUNK	3184'	
				DAKOTA	3213'	
				CEDAR MTN	364'	
				SALT WASH	4150'	
				MORRISON	4356'	
				SUMMERVILLE	4522'	
				CURTIS	5012'	
				ENTRADA	5216'	
				CARMEL	5980'	
				NAVAJO	6823'	
				KAYENTA	7334'	
				WINGATE	7477'	

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well ☐ OIL WELL ☐ GAS WELL ☒ OTHER WATER DISPOSAL

2. Name of Operator
TEXACO EXPLORATION & PRODUCTION, INC.

3. Address and Telephone Number:

3300 N. Butler Ave., Suite 100 Farmington

5. Lease Designation and Serial Number:
FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Well Name and Number:

SWD-2

9. API Well Number:
4301530323

10. Field and Pool, or Wildcat:
WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST

QQ, Sec, T., R., M: NE, NW, 14, T18S, R7E

County: EMERY

State: UT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT

(Submit in Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER | |

Approximate date work will start

SUBSEQUENT REPORT

(Submit Original Form Only)

- | | |
|--|--|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input checked="" type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER | |

Date of work completion

12/4/97

Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E. & P., INC. HAS COMPLETED THE FOLLOWING ON THE SUBJECT WELL:

11/12/97 - NUBOP. TIH TO 6553'. TAG CEMENT. TEST TO 1000 PSI. HELD, OK. DRILL OUT PAST DV TOOL. TEST TO 1000 PSI, OK. TIH TO 7453'. TEST TO 1000 PSI, OK. RIH W/ BIT & SCRAPER. CIRCULATE HOLE CLEAN. RUN CMT LOG. TOC AT 4064'. PERFORATE 7195'-7296' W/ 4 SPF, 0.45" HOLES. RIH W/ PACKER, SET AT 7180'. SWAB WELL. OBTAIN WATER SAMPLE. PUMP 5300 GAL. 7-1/2% HCL INTO PERFS.

11/19/97 - PULL PACKER. RIH W/ RBP, SET AT 7182'. TEST TO 1000 PSI, OK. PERFORATE 7078'-7086', 7098'-7162' W/ 4 SPF, 0.45" HOLES. RIH W/ PACKER. SET AT 7055'. SWAB WELL. OBTAIN WATER SAMPLE. PUMP 3850 GAL 7-1/2% HCL INTO PERFS. SWAB WELL. RELEASE PACKER. CIRCULATE WELL CLEAN TO RBP. PULL RBP. CLEAN OUT TO 7460' (PBSD).

RUN INJECTION FALLOFF TEST. RUN STEP RATE TEST. RUN IN HOLE WITH 3-1/2" INJECTION TUBING AND PACKER. SET PACKER AT 7055'.

13.

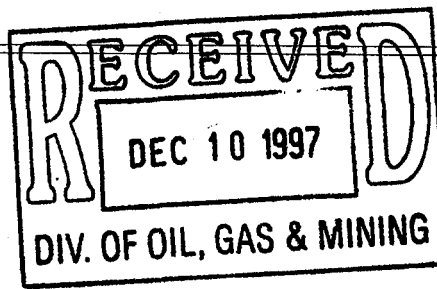
Name and Signature

Allen Davis

TITLE Operating Unit Manager DATE

12/4/97

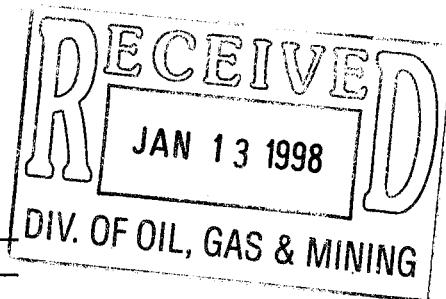
(This space for State use only)



STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR INJECTION WELL - UIC FORM 1

OPERATOR TEXACO EXPLORATION AND PRODUCTION, INC.
ADDRESS 3300 NORTH BUTLER, SUITE 100
FARMINGTON, NEW MEXICO 87401



Well name and number: SWD #2

Field or Unit name: Wildcat Lease No. FEE

Well location: QQ NE/NW section 14 township 18S range 7E county Emery

Is this application for expansion of an existing project? Yes [] No [X]

Well the proposed well be used for: Enhanced Recovery? Yes [] No [X]
Disposal ? Yes [X] No []
Storage ? Yes [] No [X]

Is this application for a new well to be drilled ? Yes [X] No []

If this application is for an existing well,
has a casing test been performed on the well? Yes [] No []

Date of Test: _____

API Number: _____

Proposed injection interval: from 7078 to 7296

Proposed maximum injection: rate 15,000 BWPD pressure 1,750 psig

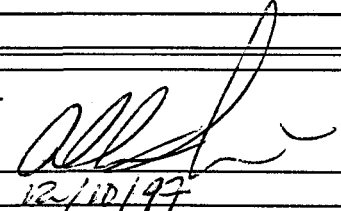
Proposed injection zone contains [] oil, [] gas, and/or [] fresh water within 1/2 mile of the well.

**IMPORTANT: Additional information as required by R649-5-2 should
accompany this form.**

List of Attachments _____

I certify that this report is true and complete to the best of my knowledge.

Name Allen R. Davis
Title Operations Manager
Phone No. (505) 325-4397

Signature 
Date 12/10/97

(State Use Only)
Application approved by _____ Title _____
Approval Date _____

Comments:

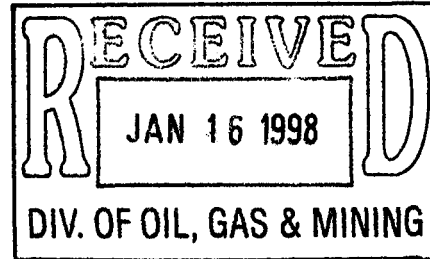


Texaco Exploration and Production Inc

3300 N Butler
Farmington NM 87401

January 15, 1998

Mr. Dan Jarvis
State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801



RE: APPLICATION FOR INJECTION WELL - UIC Form 1
Texaco Exploration and Production, Inc. Well - SWD #2
NW ~~NE~~ NW Section 14, T18S, R7E, Emery County, Utah

Dear Mr. Jarvis:

As discussed on 1/15/98, enclosed for your review is an injection application for the above captioned well. Please proceed with the public notice announcements.

If you have any questions or require additional assistance, please contact me at (505) 325-4397 ext.17.

Sincerely,

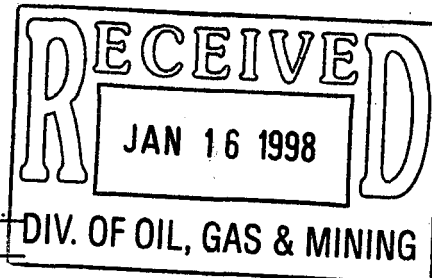
Larry N. Schlotterback
EH&S Coordinator

LNS/s

Enclosures

APPLICATION FOR INJECTION WELL - UIC FORM 1

OPERATOR TEXACO EXPLORATION AND PRODUCTION, INC.
ADDRESS 3300 NORTH BUTLER, SUITE 100
FARMINGTON, NEW MEXICO 87401



Well name and number: SWD #2

Field or Unit name: Wildcat Lease No. FEE

Well location: QQ NE/NW section 14 township 18S range 7E county Emery

Is this application for expansion of an existing project? Yes [] No [X]

Well the proposed well be used for: Enhanced Recovery? Yes [] No [X]
Disposal ? Yes [X] No []
Storage ? Yes [] No [X]

Is this application for a new well to be drilled ? Yes [X] No []

If this application is for an existing well,
has a casing test been performed on the well? Yes [] No []

Date of Test: _____

API Number: _____

Proposed injection interval: from 7078 to 7296

Proposed maximum injection: rate 15,000 BWPD pressure 1,750 psig

Proposed injection zone contains [] oil, [] gas, and/or [] fresh water within 1/2 mile of the well.

**IMPORTANT: Additional information as required by R649-5-2 should
accompany this form.**

List of Attachments _____

I certify that this report is true and complete to the best of my knowledge.

Name Allen R. Davis
Title Operations Manager
Phone No. (505) 325-4397

Signature 
Date 12/10/97

(State Use Only)
Application approved by _____ Title _____
Approval Date _____

Comments:

1a. Type of Well: OIL ☐ GAS ☐ DRY ☒ OTHER DISPOSAL WELL ☐

1b. Type of Completion

NEW ☒ WORKO ☐ DEEP ☐ PLUG ☐ DIFF. ☐ OTHER
WELL VER EN BACK RESVR.

See Spaces for Additional Data on Reverse Side

INSTRUCTIONS

This form should be completed in compliance with Utah Oil and Gas Conservation General Rules. If not a file prior to this time, all logs, tests, and directional surveys as required by Utah Rules should be attached and submitted with this report.

ITEM 18: Indicate which elevation is used as reference for depth measurements given in other spaces on this form and on any attachments.

ITEMS 22 and 24: If this well is completed for separate production from more than one interval zone, (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

ITEM 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

ITEM 33 Submit a separate completion report on this form for each interval to be separately produced (see instruction for item 22 and 24 above).

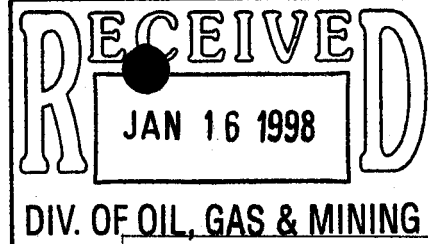
37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38.

GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
				TUNUNK	3184'	
				DAKOTA	3549'	
				CEDAR MTN	3643'	
				SALT WASH	4150'	
				MORRISON	4356'	
				SUMMERVILLE	4522'	
				CURTIS	5012'	
				ENTRADA	5216'	
				CARMEL	5980'	
				NAVAJO	6823'	
				KAYENTA	7334'	
				WINGATE	7477'	

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING



SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER WATER DISPOSAL	5. Lease Designation and Serial Number: FEE
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.	6. If Indian, Allottee or Tribe Name:
3. Address and Telephone Number: 3300 N. Butler Ave., Suite 100 Farmington NM 87401 325-4397	7. Unit Agreement Name:
	8. Well Name and Number: SWD-2
	9. API Well Number: 4301530323
	10. Field and Pool, or Wildcat: WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST

QQ, Sec, T., R., M: NE, NW, 14, T18S, R7E

County: EMERY

State: UT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)	SUBSEQUENT REPORT (Submit Original Form Only)
<input type="checkbox"/> Abandonment	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Casing Repair
<input type="checkbox"/> Change of Plans	<input type="checkbox"/> Change of Plans
<input type="checkbox"/> Conversion to Injection	<input type="checkbox"/> Conversion to Injection
<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Fracture Treat
<input type="checkbox"/> Multiple Completion	<input type="checkbox"/> OTHER
<input type="checkbox"/> OTHER	
<input type="checkbox"/> New Construction	<input type="checkbox"/> New Construction
<input type="checkbox"/> Pull or Alter Casing	<input type="checkbox"/> Pull or Alter Casing
<input type="checkbox"/> Recompletion	<input checked="" type="checkbox"/> Shoot or Acidize
<input type="checkbox"/> Shoot or Acidize	<input type="checkbox"/> Vent or Flare
<input type="checkbox"/> Vent or Flare	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Water Shut-Off	
Approximate date work will start	Date of work completion 12/4/97
	Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.
	* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E. & P., INC. HAS COMPLETED THE FOLLOWING ON THE SUBJECT WELL:

11/12/97 - NUBOP. TIH TO 6553'. TAG CEMENT. TEST TO 1000 PSI. HELD, OK. DRILL OUT PAST DV TOOL. TEST TO 1000 PSI, OK. TIH TO 7453'. TEST TO 1000 PSI, OK. RIH W/ BIT & SCRAPER. CIRCULATE HOLE CLEAN. RUN CMT LOG. TOC AT 4064'. PERFORATE 7195'-7296' W/ 4 SPF, 0.45" HOLES. RIH W/ PACKER, SET AT 7180'. SWAB WELL. OBTAIN WATER SAMPLE. PUMP 5300 GAL. 7-1/2% HCL INTO PERFS.

11/19/97 - PULL PACKER. RIH W/ RBP, SET AT 7182'. TEST TO 1000 PSI, OK. PERFORATE 7078'-7086', 7098'-7162' W/ 4 SPF, 0.45" HOLES. RIH W/ PACKER. SET AT 7055'. SWAB WELL. OBTAIN WATER SAMPLE. PUMP 3850 GAL 7-1/2% HCL INTO PERFS. SWAB WELL. RELEASE PACKER. CIRCULATE WELL CLEAN TO RBP. PULL RBP. CLEAN OUT TO 7460' (PBD).

RUN INJECTION FALLOFF TEST. RUN STEP RATE TEST. RUN IN HOLE WITH 3-1/2" INJECTION TUBING AND PACKER. SET PACKER AT 7055'.

13.

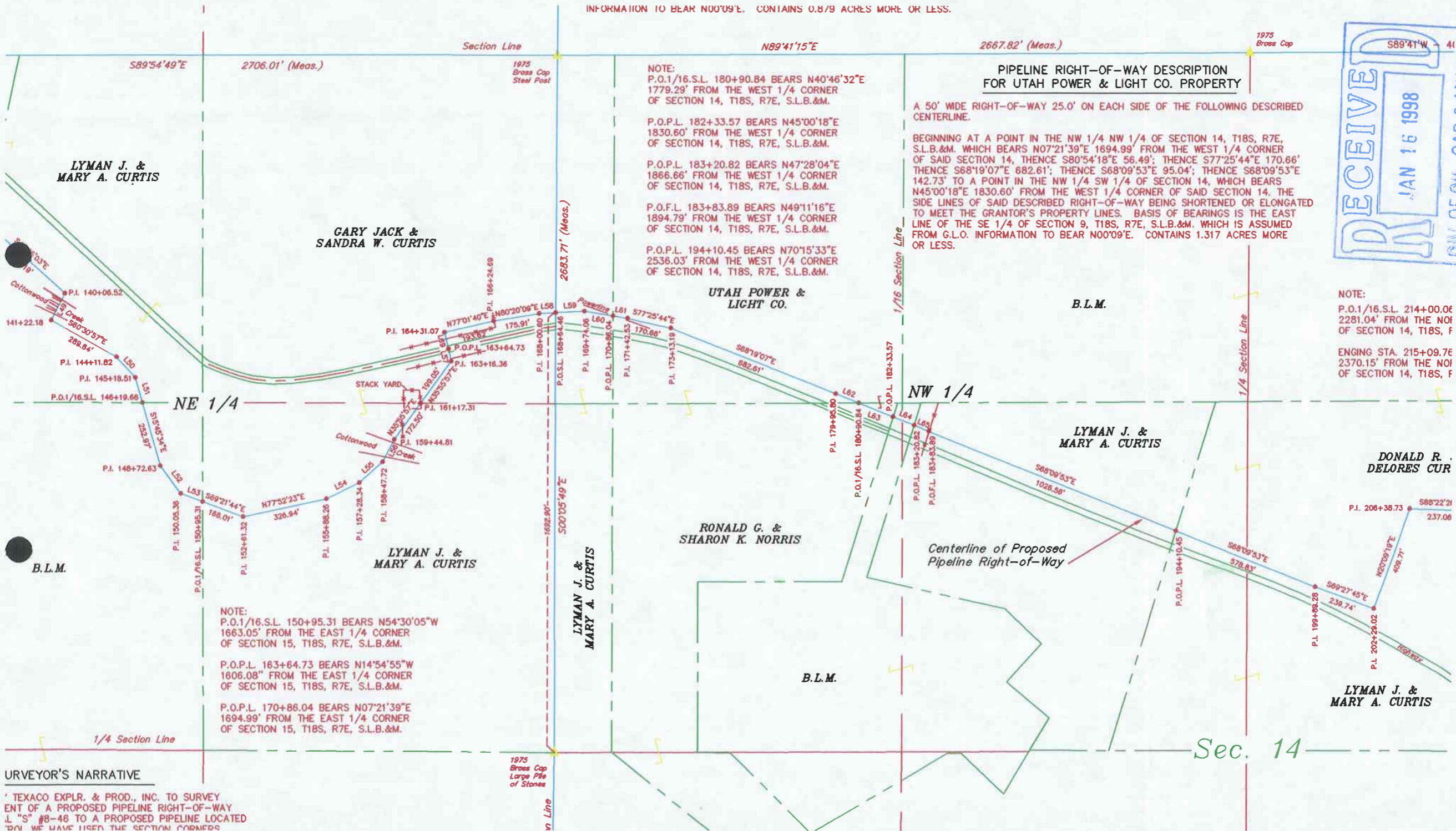
Name and Signature

Allen Davis

TITLE Operating Unit Manager DATE

12/4/97

INFORMATION TO BEAR N00°09'E. CONTAINS 0.8/9 ACRES MORE OR LESS.



URVEYOR'S NARRATIVE

' TEXACO EXPLR. & PROD., INC. TO SURVEY
ENT OF A PROPOSED PIPELINE RIGHT-OF-WAY
L "S" #8-46 TO A PROPOSED PIPELINE LOCATED
BN WE HAVE USED THE SECTION CORNERS

PIPELINE RIGHT-OF-WAY DESCRIPTION
FOR UTAH POWER & LIGHT CO. PROPERTY

A 50' WIDE RIGHT-OF-WAY 25.0' ON EACH SIDE OF THE FOLLOWING DESCRIBED
CENTERLINE.

BEGINNING AT A POINT IN THE NW 1/4 NW 1/4 OF SECTION 14, T18S, R7E,
S.L.B.&M. WHICH BEARS N07°21'39"E 1694.99' FROM THE WEST 1/4 CORNER
OF SAID SECTION 14, THENCE S80°54'18"E 56.49'; THENCE S77°25'44"E 170.66'
THENCE S68°19'07"E 682.61'; THENCE S68°09'53"E 95.04'; THENCE S68°09'53"E
142.73' TO A POINT IN THE NW 1/4 SW 1/4 OF SECTION 14, WHICH BEARS
N45°00'18"E 1830.60' FROM THE WEST 1/4 CORNER OF SAID SECTION 14. THE
SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED
TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS THE EAST
LINE OF THE SE 1/4 OF SECTION 9, T18S, R7E, S.L.B.&M. WHICH IS ASSUMED
FROM G.L.O. INFORMATION TO BEAR N00°09'E. CONTAINS 1.317 ACRES MORE
OR LESS.

NOTE:
P.O.1/16.S.L. 214+00.06
2281.04' FROM THE NO
OF SECTION 14, T18S, F
ENGING STA. 215+09.76
2370.15' FROM THE NO
OF SECTION 14, T18S, F

NOTE:
P.O.1/16.S.L. 150+95.31 BEARS N54°30'05"W
1663.05' FROM THE EAST 1/4 CORNER
OF SECTION 15, T18S, R7E, S.L.B.&M.

P.O.P.L. 163+64.73 BEARS N14°54'55"W
1606.08" FROM THE EAST 1/4 CORNER
OF SECTION 15, T18S, R7E, S.L.B.&M.

P.O.P.L. 170+86.04 BEARS N07°21'39"E
1694.99' FROM THE EAST 1/4 CORNER
OF SECTION 15, T18S, R7E, S.L.B.&M.

NOTE:
P.O.1/16.S.L. 180+90.84 BEARS N40°46'32"E
1779.29' FROM THE WEST 1/4 CORNER
OF SECTION 14, T18S, R7E, S.L.B.&M.

P.O.P.L. 182+33.57 BEARS N45°00'18"E
1830.60' FROM THE WEST 1/4 CORNER
OF SECTION 14, T18S, R7E, S.L.B.&M.

P.O.P.L. 183+20.82 BEARS N47°28'04"E
1866.66' FROM THE WEST 1/4 CORNER
OF SECTION 14, T18S, R7E, S.L.B.&M.

P.O.F.L. 183+83.89 BEARS N49°11'16"E
1894.79' FROM THE WEST 1/4 CORNER
OF SECTION 14, T18S, R7E, S.L.B.&M.

P.O.P.L. 194+10.45 BEARS N70°15'33"E
2536.03' FROM THE WEST 1/4 CORNER
OF SECTION 14, T18S, R7E, S.L.B.&M.

UTAH POWER &
LIGHT CO.

B.L.M.

NW 1/4

LYMAN J. &
MARY A. CURTIS

RONALD G. &
SHARON K. NORRIS

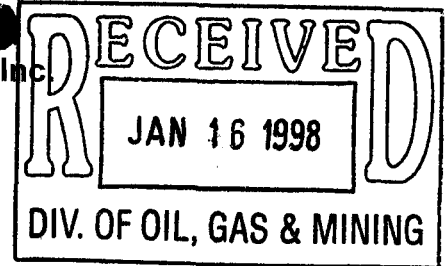
B.L.M.

DONALD R. &
DELORES CUR

LYMAN J. &
MARY A. CURTIS

Sec. 14

Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397
FAX (505) 325-5398



SWD #2
386 feet from North Line, 767 feet from West Line
NE/NW of Section 14, Township 18 South, Range 7 East

I, Larry Schlotterback, EH&S Coordinator for Texaco Exploration and Production Inc., hereby certify the following:

A copy of the permit application for the above captioned salt water disposal well, has been provided to all surface owners and operators located within a 1/2 mile radius exposure of the location:

A handwritten signature in cursive script, reading "Larry N. Schlotterback".

Larry N. Schlotterback
EH&S Coordinator
Farmington Operating Unit
Rocky Mountain Business Unit
Texaco E&P Inc.

Subscribed and sworn before me this 15 th day of January, 1998.

Witness my hand and official seal.

(SEAL)

A handwritten signature in cursive script, likely belonging to the Notary Public.

Notary Public Residing at:

Farmington NM

My Commission Expires: 9-10-2001



Texaco Exploration
and Production Inc.
Allen R. Davis - Manager
Farmington Operating Unit

3300 N. Butler, Suite 100
Farmington, NM 87401
505 325 4397

Certified Mail: P 160 088 764

December 16, 1997

Utah Power & Light
1407 West North Temple
Salt Lake City, Utah 84140

Subject: Application for Injection Well - UIC Form 1
Texaco E&P Inc. Salt Water Disposal Well - SWD #2
NE/NW Section 14, Township 18 South, Range 7 East
R649-5-2-2.12

Dear Ms. / Mr.:

As required by State of Utah Oil and Gas Conservation regulations, R649-5-2.2.12, the enclosed permit application, for the proposed captioned salt water disposal well, must be provided to all operators, owners, and surface owners located within a one-half mile radius of exposure.

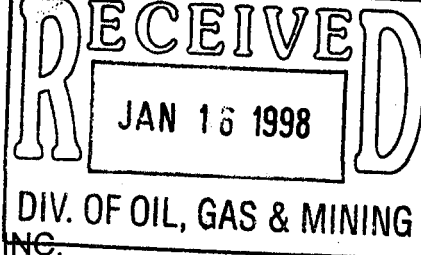
If you have any questions in regards to this notice, please call me at (505) 325-4397 or contact Mr. Dan Jarvis of the Division of Oil, Gas, and Mining in Salt Lake City, Utah.

Sincerely,

Rached Hindi
Senior Engineer
Farmington Operating Unit

LNS/s

Enclosure



APPLICATION FOR INJECTION WELL - UIC FORM 1

OPERATOR TEXACO EXPLORATION AND PRODUCTION, INC.
ADDRESS 3300 NORTH BUTLER, SUITE 100
FARMINGTON, NEW MEXICO 87401

Well name and number: SWD #2
Field or Unit name: Wildcat Lease No. FEE
Well location: QQ NE/NW section 14 township 18S range 7E county Emery

Is this application for expansion of an existing project? Yes [] No [X]
Well the proposed well be used for: Enhanced Recovery? Yes [] No [X]
Disposal ? Yes [X] No []
Storage ? Yes [] No [X]
Is this application for a new well to be drilled ? Yes [X] No []
If this application is for an existing well,
has a casing test been performed on the well? Yes [] No []
Date of Test: _____
API Number: _____

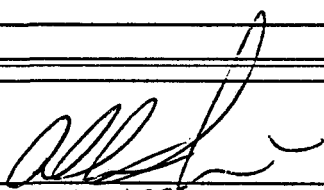
Proposed injection interval: from 7078 to 7296
Proposed maximum injection: rate 15,000 BHPD pressure 1,750 psig
Proposed injection zone contains [] oil, [] gas, and/or [] fresh water within 1/2 mile of the well.

**IMPORTANT: Additional information as required by R649-5-2 should
accompany this form.**

List of Attachments _____

I certify that this report is true and complete to the best of my knowledge.

Name Allen R. Davis
Title Operations Manager
Phone No. (505) 325-4397

Signature 
Date 12/10/97

(State Use Only)
Application approved by _____ Title _____
Approval Date _____
Comments: _____



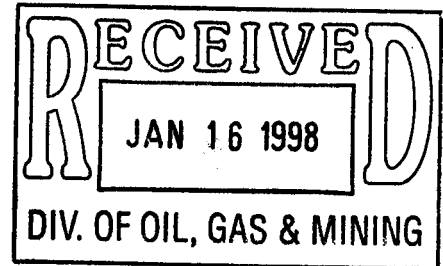
Texaco Exploration
and Production Inc.
Allen R. Davis - Manager
Farmington Operating Unit

3300 N. Butler, Suite 100
Farmington, NM 87401
505 325 4397

Certified Mail: P 160 088 765

March 1, 1996

Mr. Lyman Jack & Mary A. Curtis
10 East 300 North
Orangeville, Utah 84537



Subject: Application for Injection Well - UIC Form 1
Texaco E&P Inc. Salt Water Disposal Well - SWD #1
SW/NW Section 24, Township 18 West, Range 7 East
R649-5-2-2.12

Dear Ms. / Mr.:

As required by State of Utah Oil and Gas Conservation regulations, R649-5-2.2.12, the enclosed permit application, for the proposed captioned salt water disposal well, must be provided to all operators, owners, and surface owners located within a one-half mile radius of exposure.

If you have any questions in regards to this notice, please call me at (505) 325-4397 or contact Mr. Dan Jarvis of the Division of Oil, Gas, and Mining in Salt Lake City, Utah.

Sincerely,

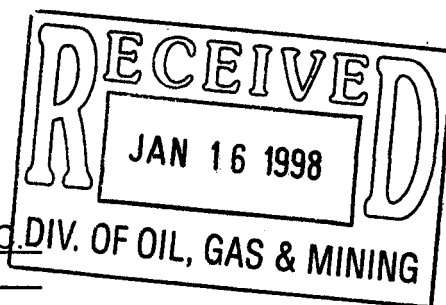
Rached Hindi
Senior Engineer
Farmington Operating Unit

LNS/s

Enclosure

APPLICATION FOR INJECTION WELL - UIC FORM 1

OPERATOR TEXACO EXPLORATION AND PRODUCTION, INC.
ADDRESS 3300 NORTH BUTLER, SUITE 100
FARMINGTON, NEW MEXICO 87401



Well name and number: SWD #2

Field or Unit name: Wildcat Lease No. FEE

Well location: QQ NE/NW section 14 township 18S range 7E county Emery

Is this application for expansion of an existing project? Yes [] No [X]

Well the proposed well be used for: Enhanced Recovery? Yes [] No [X]
Disposal ? Yes [X] No []
Storage ? Yes [] No [X]

Is this application for a new well to be drilled ? Yes [X] No []

If this application is for an existing well,
has a casing test been performed on the well? Yes [] No []

Date of Test: _____

API Number: _____

Proposed injection interval: from 7078 to 7296

Proposed maximum injection: rate 15,000 BWPD pressure 1,750 psig

Proposed injection zone contains [] oil, [] gas, and/or [] fresh water within 1/2 mile of the well.

**IMPORTANT: Additional information as required by R649-5-2 should
accompany this form.**

List of Attachments _____

I certify that this report is true and complete to the best of my knowledge.

Name Allen R. Davis
Title Operations Manager
Phone No. (505) 325-4397

Signature 
Date 12/10/97

(State Use Only)
Application approved by _____ Title _____
Approval Date _____

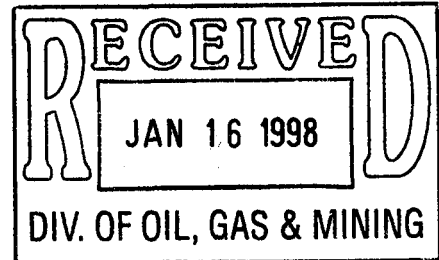
Comments:



Texaco Exploration
and Production Inc.
Allen R. Davis - Manager
Farmington Operating Unit

3300 N. Butler, Suite 100
Farmington, NM 87401
505 325 4397

Certified Mail: P 160 088 766



March 1, 1996

**Bureau of Land Management
324 South State Street, Suite 300
Salt Lake City, Utah 84101**

Subject: Application for Injection Well - UIC Form 1
Texaco E&P Inc. Salt Water Disposal Well - SWD #1
SW/NW Section 24, Township 18 West, Range 7 East
R649-5-2-2.12

Dear Ms. / Mr.:

As required by State of Utah Oil and Gas Conservation regulations, R649-5-2.2.12, the enclosed permit application, for the proposed captioned salt water disposal well, must be provided to all operators, owners, and surface owners located within a one-half mile radius of exposure.

If you have any questions in regards to this notice, please call me at (505) 325-4397 or contact Mr. Dan Jarvis of the Division of Oil, Gas, and Mining in Salt Lake City, Utah.

Sincerely,

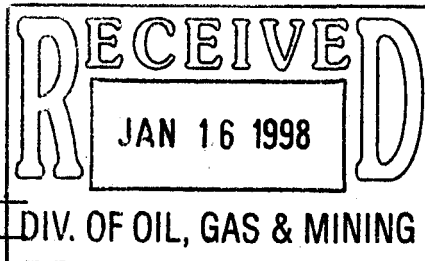
Rached Hindi
Senior Engineer
Farmington Operating Unit

LNS/s

Enclosure

APPLICATION FOR INJECTION WELL - UIC FORM 1

OPERATOR TEXACO EXPLORATION AND PRODUCTION, INC.
ADDRESS 3300 NORTH BUTLER, SUITE 100
FARMINGTON, NEW MEXICO 87401



Well name and number: SWD #2

Field or Unit name: Wildcat Lease No. FEE

Well location: QQ NE/NW section 14 township 18S range 7E county Emery

Is this application for expansion of an existing project? Yes ☐ No ☒

Well the proposed well be used for: Enhanced Recovery? Yes ☐ No ☒
Disposal ? Yes ☒ No ☐
Storage ? Yes ☐ No ☒

Is this application for a new well to be drilled ? Yes ☒ No ☐

If this application is for an existing well,
has a casing test been performed on the well? Yes ☐ No ☐

Date of Test: _____

API Number: _____

Proposed injection interval: from 7078 to 7296

Proposed maximum injection: rate 15,000 BHPD pressure 1,750 psig

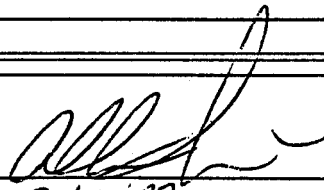
Proposed injection zone contains ☐ oil, ☐ gas, and/or ☐ fresh water within 1/2 mile of the well.

**IMPORTANT: Additional information as required by R649-5-2 should
accompany this form.**

List of Attachments _____

I certify that this report is true and complete to the best of my knowledge.

Name Allen R. Davis
Title Operations Manager
Phone No. (505) 325-4397

Signature 
Date 12/10/97

(State Use Only)
Application approved by _____ Title _____
Approval Date _____

Comments:



**Texaco Exploration
and Production Inc.**
Allen R. Davis - Manager
Farmington Operating Unit

3300 N. Butler, Suite 100
Farmington, NM 87401
505 325 4397

Certified Mail: P 160 088 767

December 16, 1997

Mr. Gary Jack & Sandra W. Curtis
Mile Post 13.7 Highway 29
Orangeville, Utah 84537

Subject: Application for Injection Well - UIC Form 1
Texaco E&P Inc. Salt Water Disposal Well - SWD #1
SW/NW Section 24, Township 18 West, Range 7 East
R649-5-2-2.12

Dear Ms. / Mr.:

As required by State of Utah Oil and Gas Conservation regulations, R649-5-2.2.12, the enclosed permit application, for the proposed captioned salt water disposal well, must be provided to all operators, owners, and surface owners located within a one-half mile radius of exposure.

If you have any questions in regards to this notice, please call me at (505) 325-4397 or contact Mr. Dan Jarvis of the Division of Oil, Gas, and Mining in Salt Lake City, Utah.

Sincerely,

Rached Hindi
Senior Engineer
Farmington Operating Unit

LNS/s

Enclosure



**Texaco Exploration
and Production Inc.**
Allen R. Davis - Manager
Farmington Operating Unit

3300 N. Butler, Suite 100
Farmington, NM 87401
505 325 4397

Certified Mail: P 160 088 768

December 16, 1997

Mr. Ronald G. & Sharon K. Norris
15 North Fairgrounds Road
Price, Utah 84501

Subject: Application for Injection Well - UIC Form 1
Texaco E&P Inc. Salt Water Disposal Well - SWD #1
SW/NW Section 24, Township 18 West, Range 7 East
R649-5-2-2.12

Dear Ms. / Mr.:

As required by State of Utah Oil and Gas Conservation regulations, R649-5-2.2.12, the enclosed permit application, for the proposed captioned salt water disposal well, must be provided to all operators, owners, and surface owners located within a one-half mile radius of exposure.

If you have any questions in regards to this notice, please call me at (505) 325-4397 or contact Mr. Dan Jarvis of the Division of Oil, Gas, and Mining in Salt Lake City, Utah.

Sincerely,

Rached Hindi

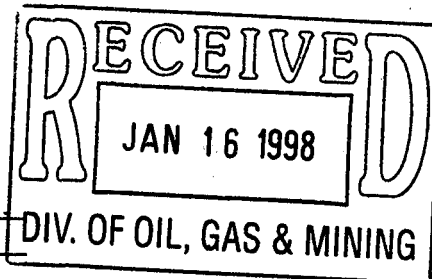
Rached Hindi
Senior Engineer
Farmington Operating Unit

LNS/s

Enclosure

APPLICATION FOR INJECTION WELL - UIC FORM 1

OPERATOR TEXACO EXPLORATION AND PRODUCTION, INC.
ADDRESS 3300 NORTH BUTLER, SUITE 100
FARMINGTON, NEW MEXICO 87401



Well name and number: _____ SWD #2 _____

Field or Unit name: Wildcat Lease No. FEE

Well location: QQ NE/NW section 14 township 18S range 7E county Emery

Is this application for expansion of an existing project? Yes [] No [X]

Well the proposed well be used for: Enhanced Recovery? Yes [] No [X]
Disposal ? Yes [X] No []
Storage ? Yes [] No [X]

Is this application for a new well to be drilled ? Yes [X] No []

If this application is for an existing well,
has a casing test been performed on the well? Yes [] No []

Date of Test: _____

API Number: _____

Proposed injection interval: from 7078 to 7296

Proposed maximum injection: rate 15,000 BWPD pressure 1,750 psig

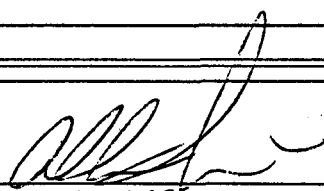
Proposed injection zone contains [] oil, [] gas, and/or [] fresh water within 1/2 mile of the well.

**IMPORTANT: Additional information as required by R649-5-2 should
accompany this form.**

List of Attachments _____

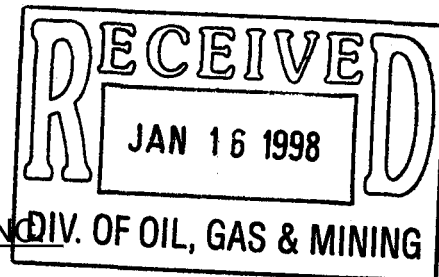
I certify that this report is true and complete to the best of my knowledge.

Name Allen R. Davis
Title Operations Manager
Phone No. (505) 325-4397

Signature 
Date 12/10/97

(State Use Only)
Application approved by _____ Title _____
Approval Date _____

Comments:



APPLICATION FOR INJECTION WELL - UIC FORM 1

OPERATOR TEXACO EXPLORATION AND PRODUCTION, INC.
ADDRESS 3300 NORTH BUTLER, SUITE 100
FARMINGTON, NEW MEXICO 87401

Well name and number: SWD #2

Field or Unit name: Wildcat Lease No. FEE

Well location: QQ NE/NW section 14 township 18S range 7E county Emery

Is this application for expansion of an existing project? Yes [] No [X]

Well the proposed well be used for: Enhanced Recovery? Yes [] No [X]
Disposal? Yes [X] No []
Storage? Yes [] No [X]

Is this application for a new well to be drilled? Yes [X] No []

If this application is for an existing well,
has a casing test been performed on the well? Yes [] No []

Date of Test: _____

API Number: _____

Proposed injection interval: from 7078 to 7296

Proposed maximum injection: rate 15,000 BWPD pressure 1,750 psig

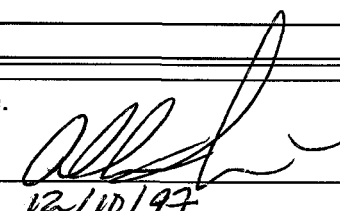
Proposed injection zone contains [] oil, [] gas, and/or [] fresh water within 1/2 mile of the well.

**IMPORTANT: Additional information as required by R649-5-2 should
accompany this form.**

List of Attachments _____

I certify that this report is true and complete to the best of my knowledge.

Name Allen R. Davis
Title Operations Manager
Phone No. (505) 325-4397

Signature 
Date 12/10/97

(State Use Only)
Application approved by _____ Title _____
Approval Date _____

Comments:

Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397

SWD #2

Requirements R649 - 5 - 2 - 2.1

Plat showing the location of the well, all abandoned or active wells within 1/2 mile radius of proposed well, and the surface owner and the operator of any lands or producing leases, respectively, within a 1/2 mile radius of the proposed injection well.

Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397

SWD #2

Requirements R649 - 5 - 2 - 2.8

Proposed average and maximum injection pressures.

A maximum of 15,000 barrels of water per day at a maximum pressure of 1,750 psi.

Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397

SWD #2

Requirements R649 - 5 - 2 - 2.9

Evidence and data to support a finding that the proposed injection well will not initiate fractures through the overlying strata or a confining interval that could enable the injected fluid or formation fluid to enter the fresh water strata.

The Navajo is overlain by 812 feet of Carmel Formation with some shale , minor salt and anhydrite and abundant sandstone with very low porosity which undoubtedly has very low permeability. The Carmel is too tight to transmit fluid through it and any fractures that might be initiated in the Navajo will not continue up through the Carmel to the overlying formations.

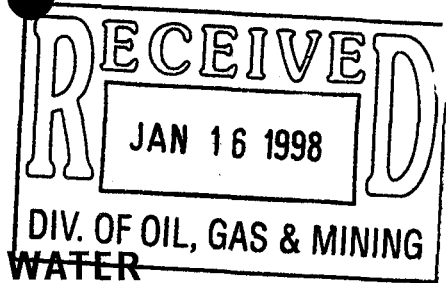
**Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397**

SWD #2

Requirements R649 - 5 - 2 - 2.10

Appropriate geological data on the injection interval and confining beds, including

- (1) geological name
- (2) lithological description
- (3) thickness
- (4) depth
- (5) lateral extent
- (6) information relative to geologic structure near the proposed well which may effect the conveyance and/or storage of the injected fluids.



**EXAMINATION OF NAVAJO SALT WATER
DISPOSAL WELLS IN BUZZARD BENCH,
EMERY COUNTY, UTAH**

PREPARED FOR:

MR. WILL JONES
TEXACO EXPLORATION & PRODUCTION CO.
4601 DTC BOULEVARD
DENVER, COLORADO 80237

PREPARED BY:

STIM-LAB, INC.
7406 NORTH HWY 81
DUNCAN, OKLAHOMA 73534

P.O. NUMBER: VERBAL/MR. WILL JONES
FILE NUMBER: SL 5081

DECEMBER 4, 1997

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM SAMPLES AND LOGS WHICH WERE SUPPLIED. WE CANNOT, AND DO NOT, GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE.

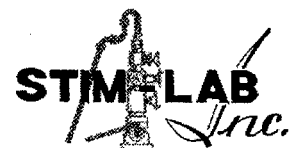


TABLE OF CONTENTS

1. Introduction _____	1—1
2. Analysis of Stress State in SWD #1 _____	2—1
2.1 Pore pressure _____	2—1
2.2 Mechanical properties _____	2—3
2.2.1 Stress due to elastic mechanical properties _____	2—3
2.2.2 Additional stress due to plastic properties _____	2—5
2.3 Tectonic stress _____	2—5
3. Injection Simulation _____	3—1
4. Recommendation _____	4—1
5. Appendix I _____	5—1

1. INTRODUCTION

The purpose of this study was to review the reservoir and injection characteristics of SWD #1 and the newly drilled SWD #2 Navajo salt water disposal wells to determine if a 1750 psi injection pressure is high enough to allow sustained injection into the Navajo sandstone and yet low enough to prevent water migration out of the target injection zone. The Navajo sandstone is the primary water disposal zone for the water co-produced with the coalbed methane from the Ferron coal group.

The local permeability in the Navajo sandstone is very high, often approaching almost a Darcy air permeability in the horizontal direction. However, the permeability is not continuous, often encountering crossbeds and permeability barriers from small compacted layers which are characteristic of eolian deposits. This requires injection pressures at or above the parting pressure to effectively access the storage capacity in the Navajo sandstone.

This would not be possible unless there is a positive, higher stress barrier to fracture height growth that contains the fluid in the Navajo sandstone. The anhydrite zone above the Navajo sandstone represents the most positive barrier, although the shales and limestone between the sandstone and the anhydrite are also higher stress than the sandstone. Since various pieces of data are available for two different wells in Buzzard Bench as well as the information from the 5 Navajo penetrations in Drunkards Wash, the first step was to reconcile the known similarities and differences so that logical conclusions could be made.

The effective stress in the Navajo sandstone is a result of the original pore pressure, lithologic characteristics, and tectonic stress. This defines the fracture parting pressure. The tectonic stress in the region can vary significantly and thus can result in as much as 1000 psi difference in parting pressure. Therefore, the stress on the anhydrite barrier must be examined carefully.

The original pore pressure and fracture extension pressure in the Navajo sandstone are known for the SWD #1 and the dipole sonic log which is required to get the dynamic, elastic rock mechanical properties was acquired on the newly drilled SWD #2 well. This information was used to determine the stress state in the Navajo sandstone and in the anhydrite barrier to determine the maximum injection pressure in the disposal zone that is guaranteed not breach the anhydrite barrier.

2. ANALYSIS OF STRESS STATE IN SWD #1

The first step in the analysis was to compare the log derived characteristics of the Navajo sandstone and the anhydrite barrier in both SWD #1 and SWD #2. Figure 1 shows the characteristics around the primary anhydrite zone in SWD #2 and presents the gamma ray and bulk density which are the best indicators of lithology in this area. The bulk density from SWD #1 is plotted on the same scale by using a log depth adjustment of -385 ft and shows the similarities of the two wells, especially with respect to the major anhydrite layer at ca. 6400 ft. This gave us confidence that we could use

the SWD #2 mechanical properties for characterizing SWD #1 from 5865 to 6315 ft. The data in figure 2 shows the gamma ray and porosity comparison for each well with depth adjustment to compare the Navajo sandstone interval characteristics.

The development of porosity in the Navajo sandstone is very similar in the two wells. There are well developed shales on the top and bottom of the Navajo with a low porosity siltstone in the center. Therefore we believe that the mechanical properties derived from SWD #2 will be quite applicable to SWD #1 with the appropriate depth shift.

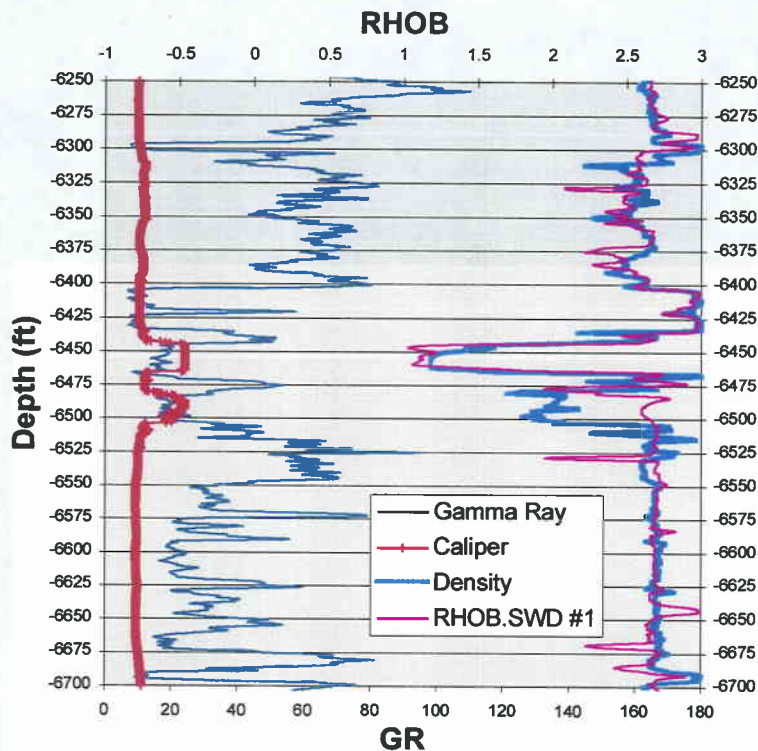


Figure 1

2.1 PORE PRESSURE

An injection fall-off test was conducted in SWD #1 with a bottomhole pressure gauge at 7000 ft. The extrapolated bottom hole pressure was 2618 psi which is a pore pressure gradient of 0.374 psi/ft. This value is consistent with other measured pressures which show that the Navajo sandstone is slightly underpressured.

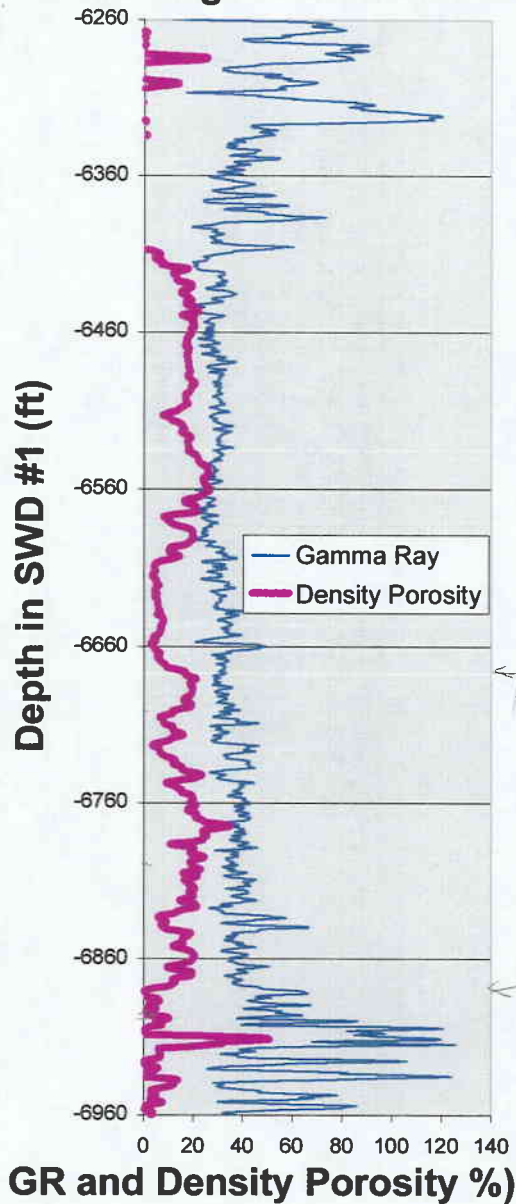
volume anisotropic
Cand bought + closed @ country

late sample
delivery for
bottle of test
of 1.25.

3400 # 601-1300 #

Robert will
provide
this stuff

SWD#1 Log Characteristics



SWD#2 Log Characteristics

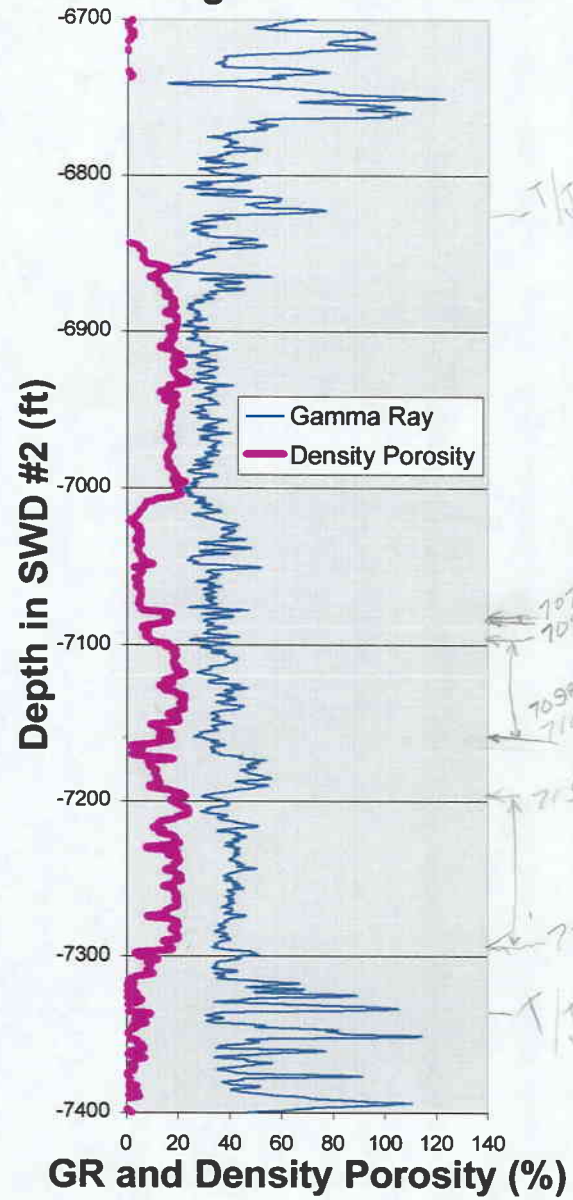


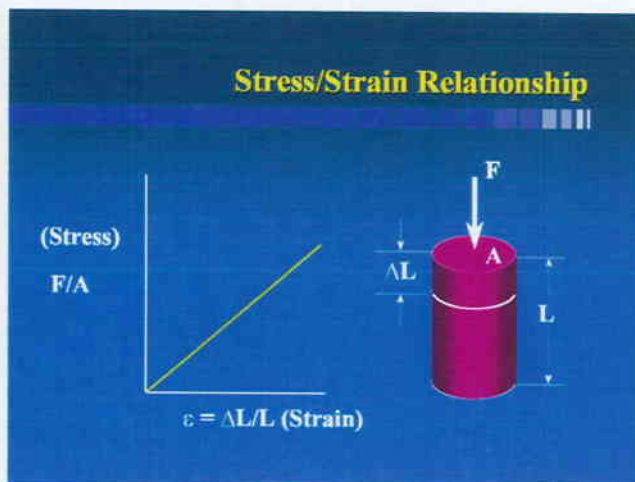
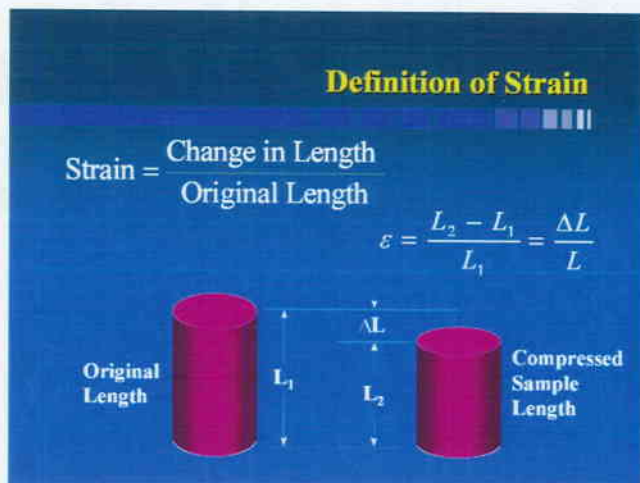
Figure 2

2.2 MECHANICAL PROPERTIES

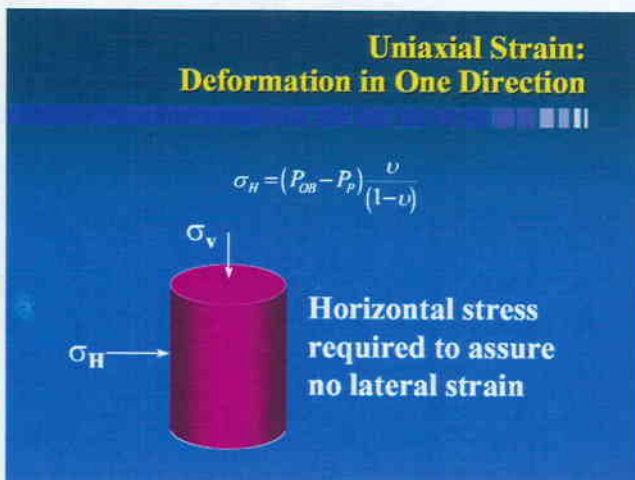
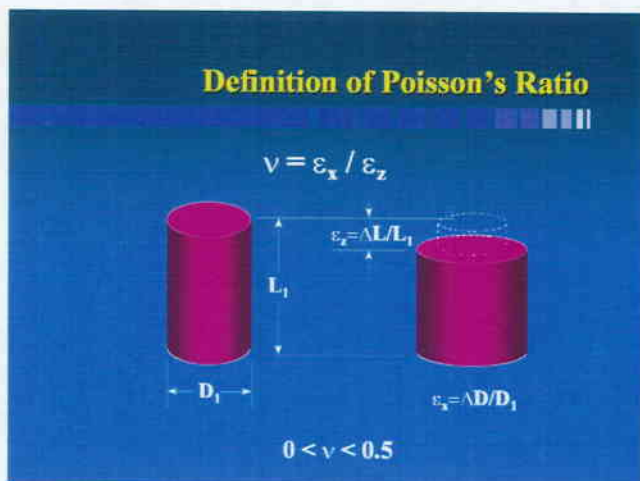
There are two primary forces which are responsible for the horizontal stress state in the various rock layers in the reservoir. The largest is the overburden and the second is the stress induced by tectonics.

2.2.1 STRESS DUE TO ELASTIC MECHANICAL PROPERTIES

When a force is applied to a rock mass, it deforms. The applied stress divided by the change in length is Young's Modulus in units of psi. The stiffest rock in this reservoir is the anhydrite with a dynamic Young's Modulus approaching 12 million psi.

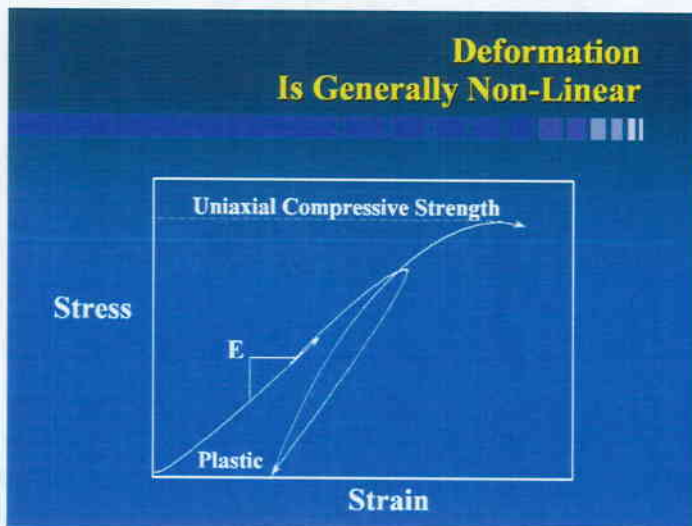


The lithostatic stress in the rock layers arises from the weight of the overburden. In experiments with an isolated cylindrical formation sample, the rock will shorten and increase in diameter as the force is applied. Poisson's Ratio is the change in diameter divided by the change in length.



In the reservoir, the sample can't increase in size and therefore the stress in the layer must increase. Poisson's Ratio thus describes the amount of horizontal stress caused in the reservoir by the weight of the overburden.

The elastic mechanical properties, Young's Modulus and Poisson's Ratio were derived from the Dipole sonic log on SWD #2. Unfortunately, not all rocks behave as elastic solids. Sandstones and siltstones come the closest to fitting elastic theory and numerous field stress measurements have shown that the log derived values reasonably predict the lithostatic stress in those rock types. Other rock types; limestone, shales, coals and anhydrite, can also behave as a plastic and creep over geologic time. This means that the effective Poisson's Ratio is higher, and the stresses are higher than measured by the sonic logs. Marble is shown below as an example.



Shales are very common barriers to hydraulic fracture growth. An exceptionally high stress level is due to plastic deformation. Shales are compositionally quite complex, but their stress states vary primarily by the amount of quartz and other filler material present. Quartz behaves as a filler and reduces the plastic nature of the shale. This principle is very common in the plastics industry and is used to modify the properties of engineering plastics. Filled composites are much more rigid and less plastic than the parent material. In shales, the gamma ray is higher for higher clay content shales and roughly correlates to the in-situ stress present in the shale. Recent field experiments conducted by Sandia/GRI/DOE at the M-Site in Colorado [Branagan, Warpinski, 1997¹] have confirmed that some shales have stresses equal to the overburden stress. Over geologic time, they have achieved an effective Poisson's ratio of 0.5 which is the maximum value.

In practice, anhydrite layers have been seen to stop fracture height growth. Fracture height growth is arrested in fracturing treatments in the Madison formation [Cramer, 1984²] by the anhydrite cap and also in the Levelland San Andres field [Morgenthaler,

1994^{3]}. In this well, the effectiveness of anhydrite in terminating natural fractures is seen in the FMI log which shows two separate cases of an open natural fracture that terminates on the top (figure 3) and bottom of the anhydrite (figure 4)

Unfortunately, no other log can be used as easily to confirm the variations in the plastic nature of anhydrite. The measured dynamic Poisson's Ratio for anhydrite is ca. 0.3 which is similar to the value for the shales. Furthermore, there are few "pure" shales in this reservoir. The computed stress in the shales, limestones and anhydrite, from elastic properties alone, is enough higher than the stress in the Navajo sandstone to limit fracture height growth. However, it may not provide the "absolute" containment that we are seeking.

2.2.2 ADDITIONAL STRESS DUE TO PLASTIC PROPERTIES

A literature survey was conducted to determine what has been published that would be pertinent to the stress state in the anhydrite layers above the Navajo sandstone. Unfortunately few direct measurements of stress have been identified at this time. A number of laboratory studies have been conducted, particularly with respect to containment of radioactive wastes. The most pertinent abstracts are given in Appendix I.

The majority of the studies suggest that anhydrite can behave as a plastic rock and creep over geological time. The measurements suggest that a number of parameters such as temperature, strain rate and composition will impact the specific properties. Based on this literature, we believe that the anhydrite layer has much higher stress than would be predicted by elastic theory and therefore even more of a barrier to fracture height growth.

2.3 TECTONIC STRESS

A simulation was conducted with GOHFER (Grid Oriented Hydraulic Fracture Extension Replicator) to investigate the relative containment that might be expected from the stresses due to the elastic properties alone and to determine the tectonic state in SWD #1. The predicted injection pressures from the fracture simulation were used to assess the tectonic stresses in the reservoir. We have found in previous work that injections into sandstones or siltstones can be used to get an accurate picture of the tectonic stress in the reservoir. The mechanical properties determined from the logs in SWD #2 were used for the simulation and adjusted to the actual depth of the reservoir in SWD #1 where the step-rate test was conducted.

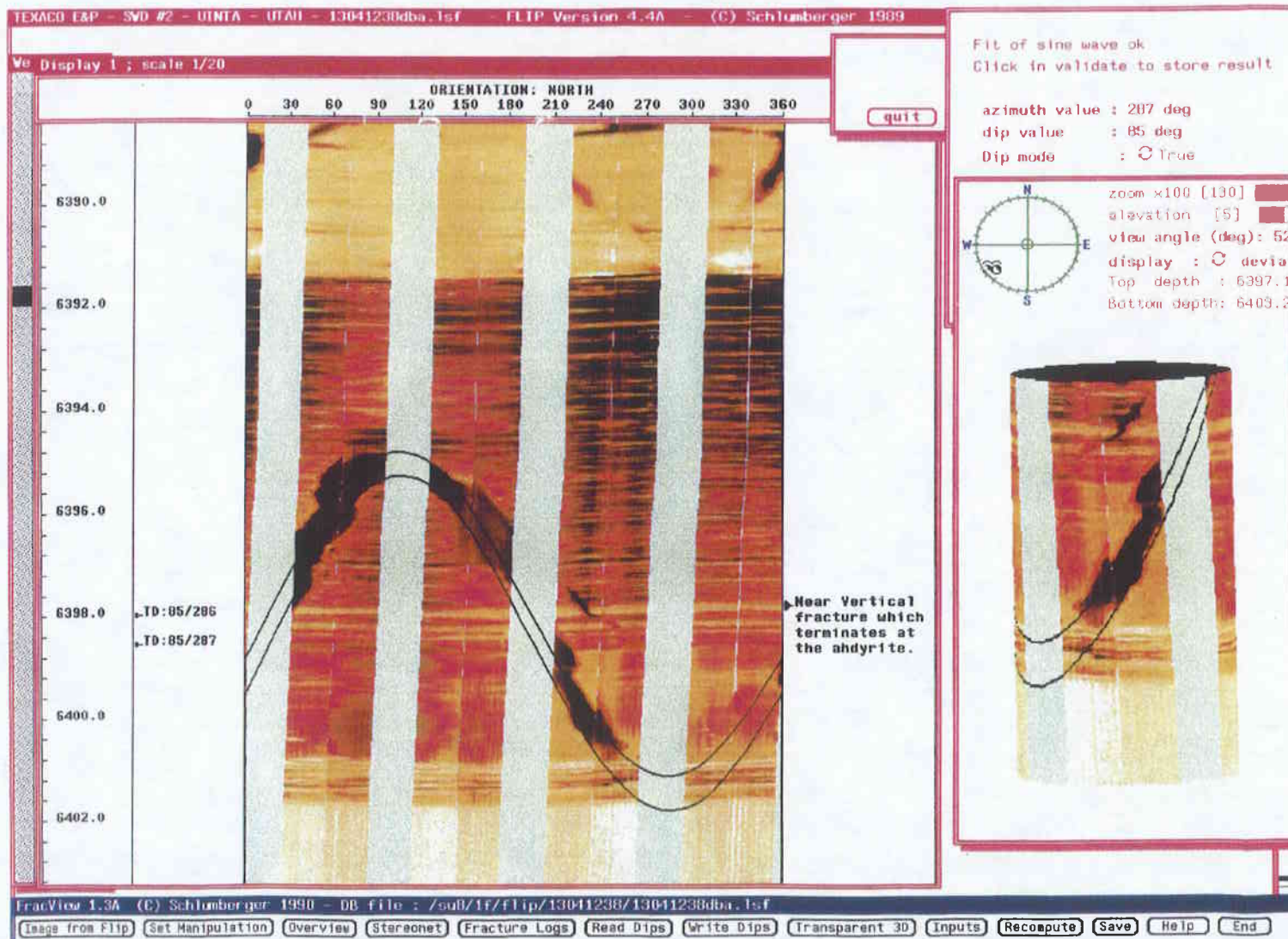


Figure 3

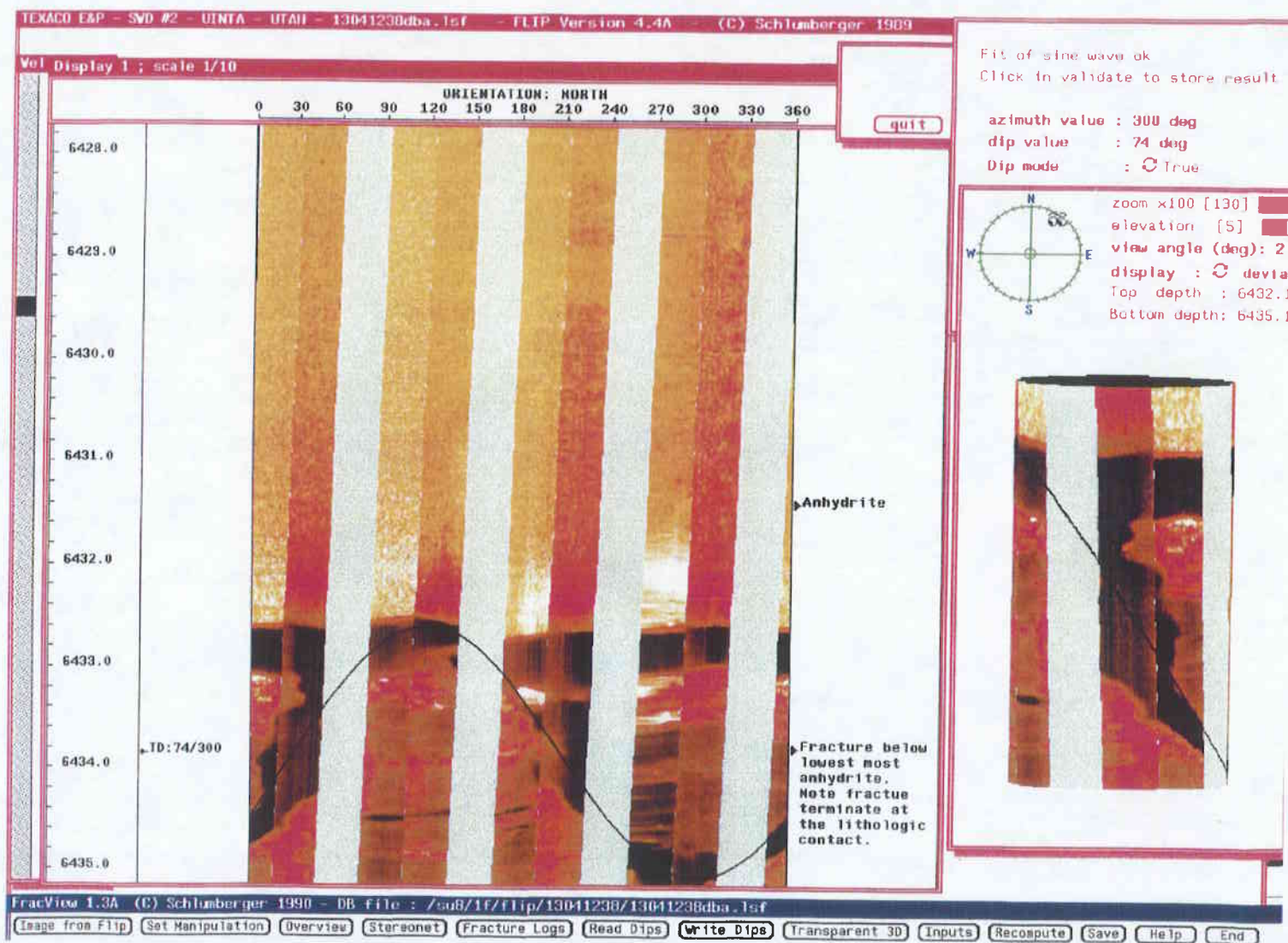


Figure 4

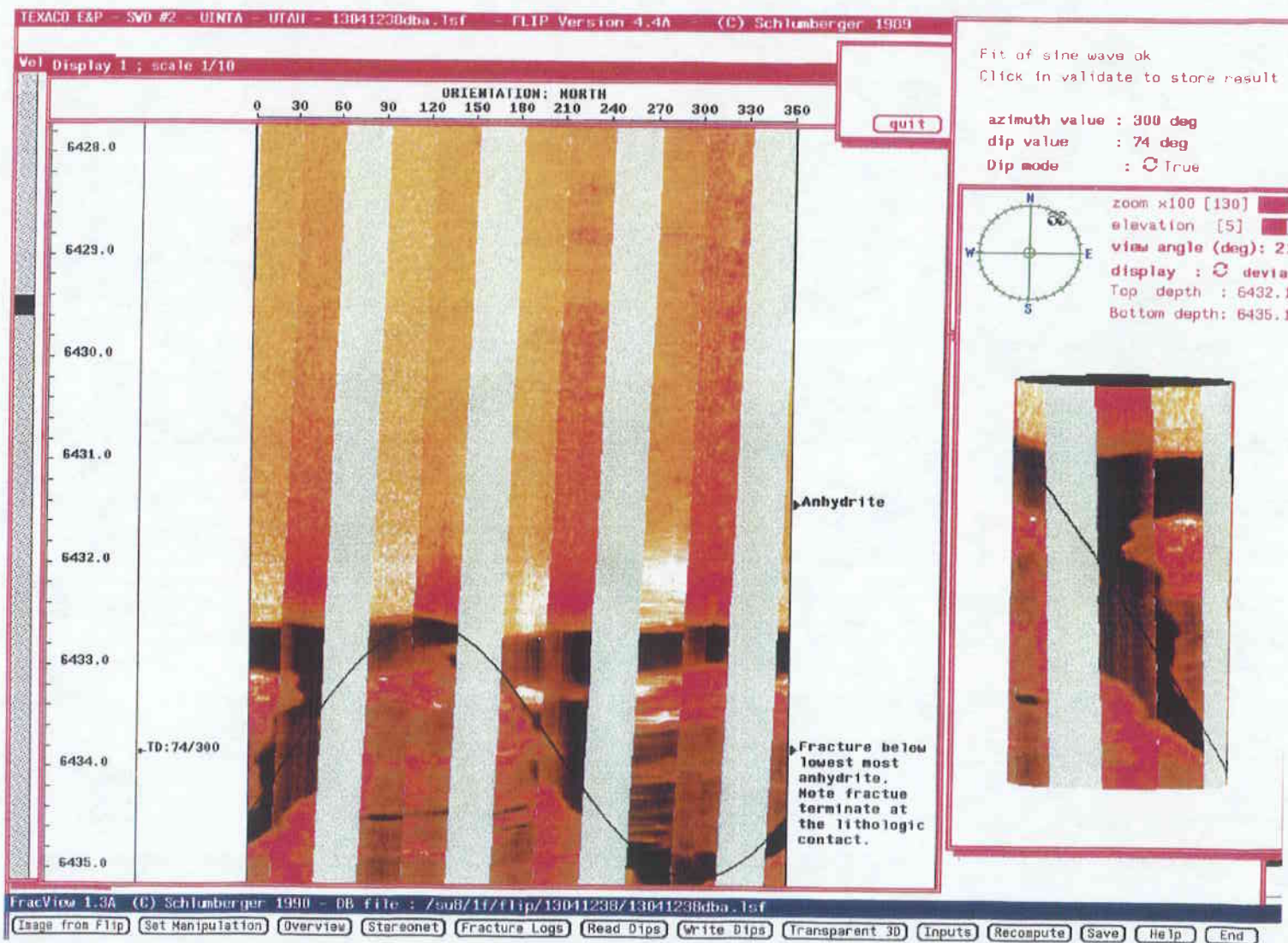


Figure 4

The simulation results given in figure 5 show that the injection pressures seen in the step-rate test are reasonably modeled by including a tectonic compression of 50 microstrains. Using the previously discussed definition of Young's Modulus, 50 microstrains will result in a horizontal stress increase of 300 psi in a rock with a 6 million psi modulus.

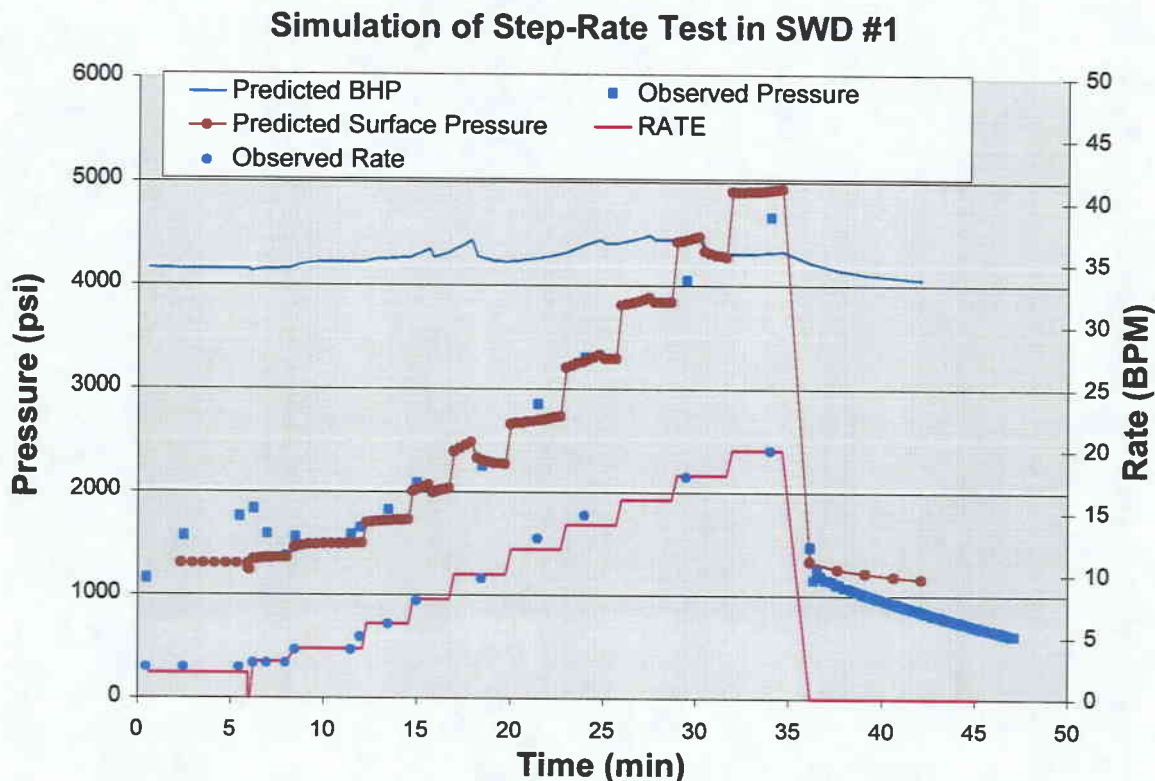


Figure 5

A permeability of 12.5 md determined from the pressure transient analysis of the injection test was used. The fall-off rate at the end of the injection test is underestimated for short fractures in high permeability rock. Only the linear leak-off is modeled in the simulator and not the pseudo-radial leak-off that occurs at the tip of the fracture.

3. INJECTION SIMULATION

Using the stress profile based only on elastic properties (not including the plastic properties that will add additional stress) and calibrated by modeling the step-rate test, the containment of the fracture was examined with 0.4 million barrels of water injection at 4 BPM (5760 BWPD). The GOHFER simulation was conducted assuming the upper set of perforations were also opened. The data in figure 6 shows that a surface pressure of approximately 1750 psi or less will be required to sustain the injection of that volume of water.

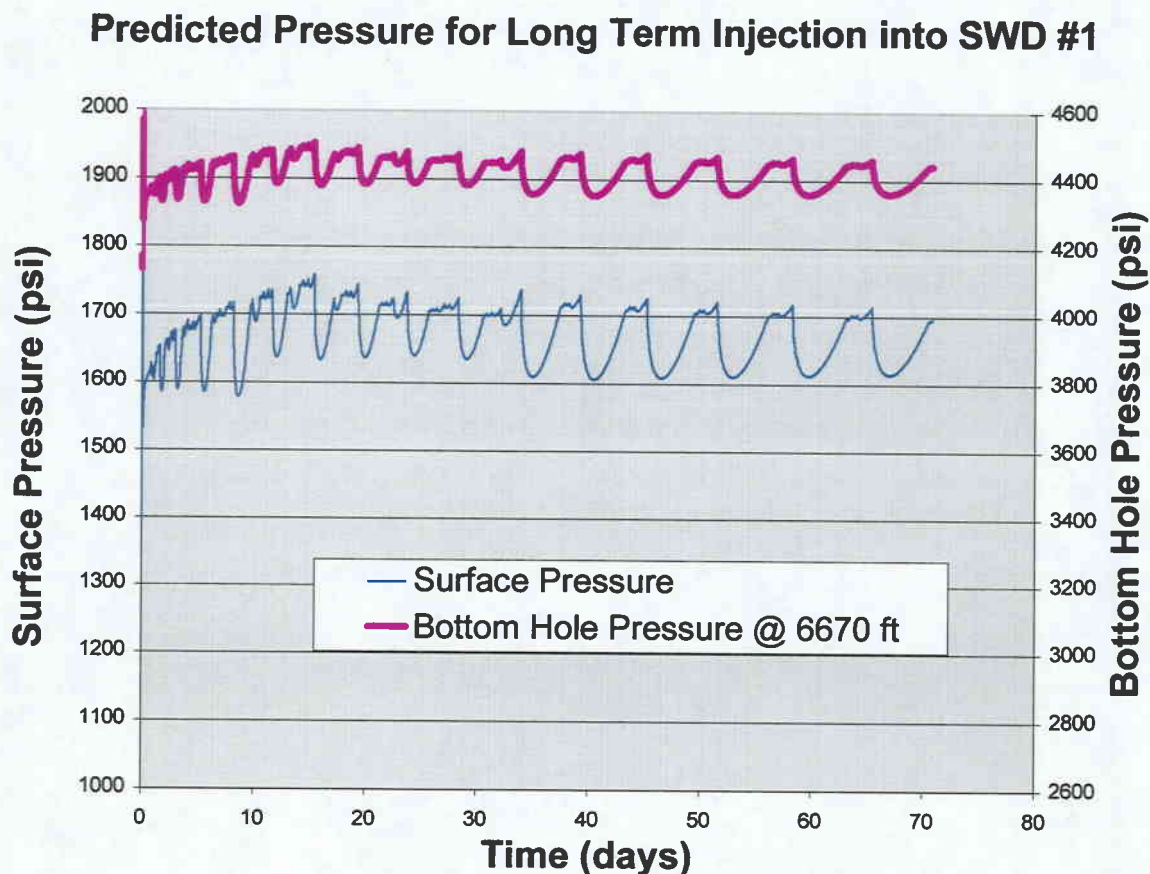


Figure 6

The fracture geometry at the end of pumping is shown in figure 7. The limestone above the zone appears to be an effective barrier to fracture height growth.

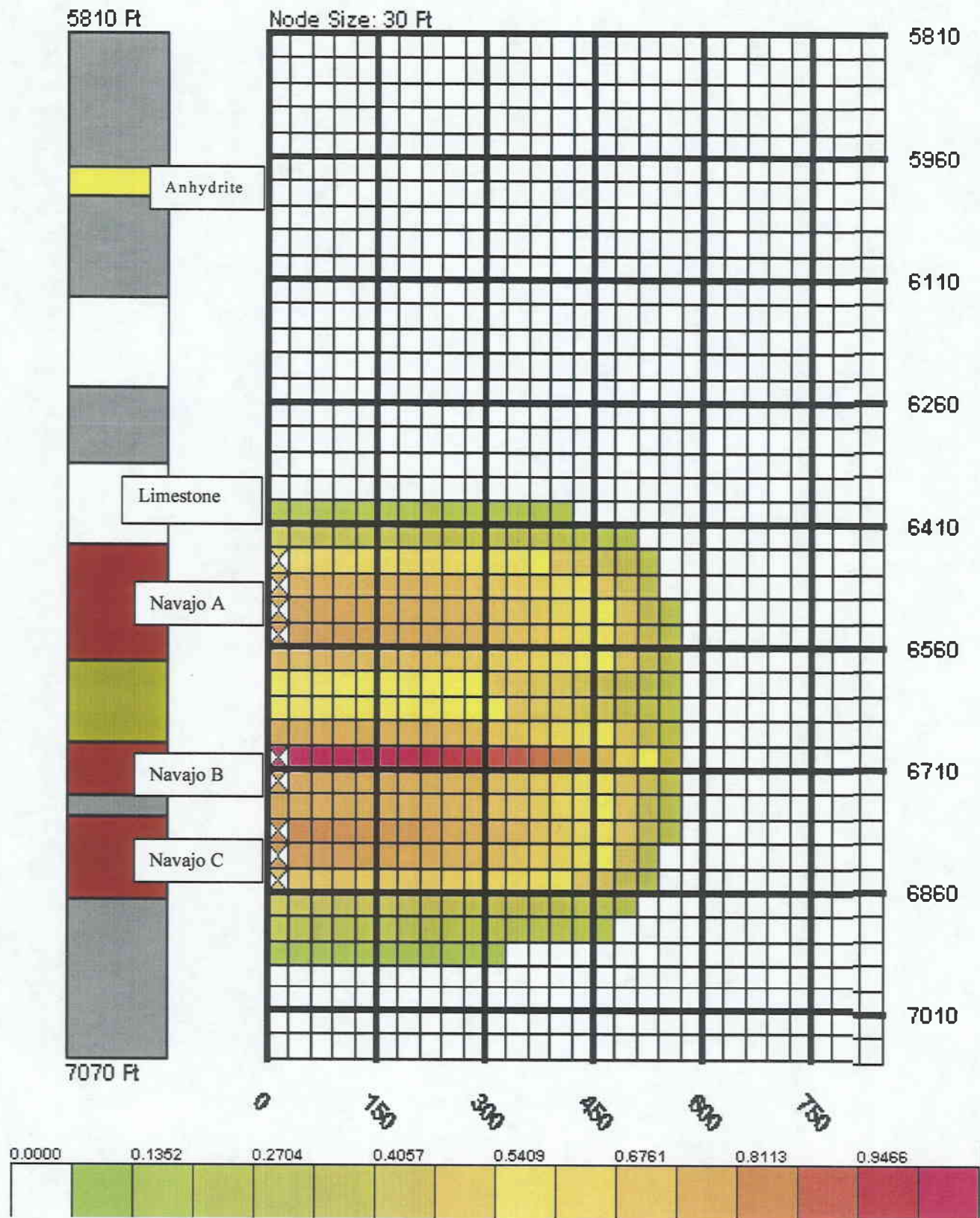


Figure 7

4. RECOMMENDATION

This work shows that a surface pressure limit of at least 1750 psi may be sufficient for sustained injection of +/-6000 BWPD in SWD #1. The analysis of the stresses and fracture simulation shows that the limestone zones above the Navajo sandstone will be an effective barrier to height growth at 1750 psi. The anhydrite barrier further ensures the injected fluid will be contained. The properties of the anhydrite in this area will be assessed further to determine if higher injection pressures can be justified. Therefore, we recommend that the upper zone be perforated and the surface pressure limit be raised to 1750 psi.

5. APPENDIX I

□

Search Topic: Creep in anhydrites

□

□

□

1.-ID-T607096

□

-TITLE-EXPERIMENTAL DEFORMATION OF FINE-GRAINED ANHYDRITE: EVIDENCE FOR
□
DISLOCATION AND DIFFUSION CREEP

□

-SOURCE- J. GEOPHYS. RES. v.100, no.B8, pp.15425-15440, 8/10/95. (ISSN
0148-0227; Over 40 refs)-YEAR-1995

-AUTHOR-L.N.Dell'Angelo and D.L.Olgaard (Swiss Federal Inst Technol)

-ABSTRACT-

Deformation experiments on 2 fine-grained anhydrite aggregates have revealed 2 high-temperature flow regimes: (1) twinning and dislocation creep at high stresses (s), and (2) diffusion creep accompanied by grain boundary sliding at low stresses. Each regime is characterized by a power law constitutive equation, diagnostic microstructures, and crystallographic preferred orientations. The data for both anhydrites, corrected for grain size (d), are combined into a single composite flow law. The anhydrites show strain hardening for $s > 150$ MPa and steady state flow for $s \leq 150$ MPa.

-END-

2.-ID-95-33816

-TITLE-Experiments on plastic flow of fine-grained two-phased rocks IN:

-TITLE-Grain size effects on the deformation of anhydrite IN: AGU 1994 fall
□
meeting

□

-SOURCE-Eos, Transactions, American Geophysical Union (75) no. 44, Suppl. p.
636 ISSN: 0096-3941 CODEN: EOSTAJ Anonymous Publisher: American
Geophysical Union Washington, DC USA United States Meeting:
American Geophysical Union, 1994 fall meeting San Francisco, CA USA
United States 19941205 Dec. 5-9, 1994 Summary Only -YEAR-1994

-AUTHOR-

Bruhn, D. | Olgaard, D. L. | Dell'Angelo, L. N. (ETH Geologisches
Institut Zurich CHE Switzerland)

-DESCRIPTORS-

aggregate | anhydrite | calcite | carbonates | creep | crystal
dislocations | deformation | experimental studies | fines | grain
boundaries | grain size | plastic flow | plasticity | rheology | strain
| sulfates

-END-

3.-ID-T474113

-TITLE-PLASTIC FLOW AND CONTRAFLOW IN SUPERPOSED ZECHSTEIN SALT SEQUENCES

-SOURCE-

J. PETROL. GEOL. v.12, no.4, pp.477- 486, Oct. 1989

-AUTHOR-M.K.Jenyon.

-ABSTRACT-

A competent band within a salt-rock sequence can be useful indicator of the form taken by any plastic deformation movement that occurs in the salt. The acoustic impedance contrasts provided by such a band often result in strong seismic reflection events that exhibit the effects of all stages of deformation accompanying salt movement. Examples are shown in seismic data from the North Sea Zechstein of deformation of the Plattendolomit band that separates the underlying Z2-cycle salt from the salt of the overlying Z3 cycle. Cases are discussed in which the evidence suggests contradicton in the 2 salts, where the Z2 salt has flowed bi-directionally away from the axial trough of a salt-withdrawal basin. This has led to flow of the overlying Z3 salt bidirectionally toward the same axis. Observations clarify the rheological behavior of superposed slats, and the deformational behavior of competent carbonate/anhydrite bands within a salt sequence.

-END-

4.-ID- 96-28346*

-TITLE- Natural flow of anhydrite

-SOURCE- Terra Abstracts. ISSN:09544887 v.1 (5), p. 291, 1993, Blackwell Scientific Publications, Oxford, III; illus.

Conference: Seventh meeting of the European Union of Geosciences , abstract supplement;Strasbourg, FRA; April 4-8, 1993.

-AUTHOR- Jordan, Peter G. (Universitaet Basel, Geologisches-Palaeontologisches Institut, Basel, CHE)

-DESCRIPTORS- anhydrite; deformation; Europe; field studies; Jura Mountains; plasticity; strain; sulfates

-END-

5.-ID- 96-05440*

-TITLE- Clay and sulfate rocks in deformation reactions

-SOURCE- Geologische Rundschau. ISSN:00167835 v.78 (2), p. 443-457, 1989, Springer International, Berlin, DEU; 30 ref., illus., charts, 1 table, geol. sketch map

-AUTHOR- Nueesch, R. (IGB Tonmin. Lab., ETH-Zuerich, Zurich, CHE); Baumann, W.

-DESCRIPTORS- Aargau Switzerland; anhydrite; argillite; Central Europe; chlorides; clastic rocks; deformation; Europe; experimental studies; gypsum;

halides; halite; Jura Mountains; plastic flow; sedimentary rocks; strength; sulfates; Swiss Jura Mountains; Switzerland; time factor; water

-END-

6.-ID-69-33318

-TITLE-Geologic settings of subsidence IN: Reviews in engineering geology, V. 2

-SOURCE-p. 305-342 Varnes, D. J. editor | Kiersch, George editor illus. 1969 Boulder, Colo., Geol. Soc. America

-AUTHOR- Allen, Alice S.

-ABSTRACT-

This paper reviews the role of geologic processes that contribute to subsidence. The processes are: (1) solution of gypsum and salt and redistribution of transient fill materials through solution cavities in calcareous rocks, (2) underground erosion of uncemented or

lightly

cemented silt and sand through temporary underground passageways, (3) lateral plastic flow of salt, gypsum and anhydrite, shale, and clay under loading, (4) compaction of sediments by loading, drainage, vibration, and hydrocompaction, (5) tectonic movements including primary and secondary effects of earthquakes, folding, and warping, and (6) volcanic activity. Examples have been selected to illustrate subsidence under natural and manmade conditions. The future prospects for advancing our geologic knowledge are excellent. Methods of measuring ground-surface displacements are improving rapidly.
-DESCRIPTORS-compaction | geologic hazards | land subsidence | loading | pore water | processes -END-

□

□

7.-ID-T58910

□

-TITLE-AN EXPERIMENTAL STUDY OF THE EFFECT OF TEMPERATURE

□

AND STRESS ON THE CREEP OF ROCKS

□

-SOURCE-GEOPHYS J V 9, NO 5, PP 509-535, JULY 1965

-AUTHOR-MISRA, A K MURRELL, S A F

-ABSTRACT-

Measurements have been made of the creep of a number of different rocks (anhydrite, dolomite, sandstone, marble, micrograndiorite and peridotite) at temperatures up to $750 \pm C$ under conditions of constant compressive or torsional stress. The results show that at temperatures below about $0.2T_m \pm$ (where $T_m \pm$ is the absolute temperature of melting) the creep strain is proportional to the logarithm of the time under load, and is approximately proportional to the stress and to the temperature. At higher temperatures the creep rate falls off less rapidly with time, and the creep strain is proportional to a fractional power of the time, with the exponent increasing as the temperature increases and reaching a value of $\frac{1}{3}$ at temperatures of about $0.5T_m \pm$. At these temperatures the creep increases with stress according to a power greater than unity and possibly exponentially and it increases with temperature as $\exp(-U/kT)$, where U is an activation energy and k is Boltzmann's constant. These results are strikingly similar to those obtained in measurements on metals, and it is thought that they can be explained in an exactly similar way in terms of competing processes of strain-hardening and thermal recovery. (36 refs.)

-END-

8.-ID-95-10291

-TITLE-A survey of the engineering properties of some anhydrite and gypsum from the north and Midlands of England

-SOURCE-Engineering Geology (38) no. 1-2 p. 1-23 ISSN: 0013-7952 CODEN: EGGOAO
Publisher: Elsevier Amsterdam NLD Netherlands References: 25 illus.
incl. strat. cols., 4 tables, geol. sketch map 1994

-AUTHOR- Bell, F. G. (University of Natal, Department of Geology and Applied Geology Durban ZAF South Africa)

-ABSTRACT-

The Permian and Triassic systems in the north and midlands of England contain notable beds of anhydrite and gypsum. These rocks contain small but varying amounts of muddy material which often has some influence on their geomechanical properties. Anhydrite is a strong to very strong rock in terms of both its unconfined compressive strength and point load index, whereas gypsum is of medium strength according to

its

unconfined compressive strength. Because of the low porosity of these rocks, porosity does not have a significant influence on their strength. However, the strength and hardness of these rocks are strongly correlated. In terms of the slake-durability test, anhydrite has a very high durability and gypsum a high to very high durability, with the stronger rocks yielding higher values of durability. Most anhydrite and gypsum exhibit plastic-elastic-plastic deformation, subsequent plastic deformation occurring at an earlier stage during loading of gypsum than of anhydrite. As far as deformability is concerned, that of anhydrite is very low while that of gypsum varies from low to high. Both rock types experience hysteresis on cyclic loading, that of gypsum being more notable than that of anhydrite and the amount of hysteresis undergone increases with successive cycles of loading and unloading. Anhydrite and gypsum both undergo creep when subjected to constant loading, gypsum being the more prone to creep under constant load.

-DESCRIPTORS-

anhydrite | chemically precipitated rocks | creep | Cumbria England | cyclic loading | deformation | density | durability | engineering properties | England | Europe | evaporites | experimental studies | Great Britain | gypsum | loading | mechanical properties | Midlands | northern England | Nottinghamshire England | plasticity | rock mechanics | sedimentary rocks | specific gravity | strain | strength | sulfates | United Kingdom | Western Europe | Yorkshire England

-END-

9.-ID-97-53631

-TITLE-Texture development in experimentally deformed two-phase aggregates of calcite and anhydrite

-SOURCE-Journal of Structural Geology (19) no. 7 p. 909-925 ISSN: 0191-8141 CODEN: JSGEDY Publisher: Pergamon Oxford-New York III International

References: 28 illus. incl. 6 tables 1997

-AUTHOR- Bruhn, David F. | Casey, Martin (ETH Zuerich, Geologisches Institut Zurich CHE Switzerland)

-DESCRIPTORS-

anhydrite | calcite | carbonates | compressibility | creep | deformation | diffraction | effects | experimental studies | grain size | hemihydrate | indicators | mechanism | preferred orientation | probability | rock mechanics | SEM data | statistical analysis | strain | stress | structural analysis | sulfates | textures

-END-

10.

02165732 AIX-19-031499; EDB-88-108465

Title: Method for estimation of tectonic shear strain based on microstructural observations

□

Author(s): Jordan, P.

□

Affiliation: Basel Univ. (Switzerland)

□

Title: Contributions to geology of Northern Switzerland

Original Title: Beitrage zur Geologie der Nordschweiz

Corporate Source: Nationale Genossenschaft fuer die Lagerung Radioaktiver Abfaelle (NAGRA), Baden (Switzerland)

Conference Title: Geology of northern Switzerland conference

Conference Location: Bern, Switzerland Conference Date: 9 Oct 1986

Publication Date: 1987 p 491-508

Report Number(s): NAGRA-NTB-87-15; CONF-8610398-

Document Type: Analytic of a Report; Conference literature

Language: German

Journal Announcement: ERA8803

Availability: Nagra, CH-5401 Baden.

Country of Publication: Switzerland

Abstract: The relative competence between certain rocks or minerals inverts when particular confining conditions are reached. Anhydrite, for example, deforms at a higher stress level in the cataclastic field than clay. With increasing burial depth, anhydrite enters the field of crystal plasticity and its strength decreases rapidly, while clay keeps on deforming by cataclasis at increasingly higher stresses and becomes finally stronger than anhydrite. This inversion of strength is a function of temperature, pore pressure, confining pressure as well as of strain rate. The inversion of relative competence may, therefore, be used as a valuable dynamic indicator, provided that the ambient conditions effective during deformation are sufficiently known. Based on experimentally deduced flow laws, equilibrium point maps may be calculated for the maximum or minimum strain rate implied by the observed microstructures. The map presented here allows a good estimation of the influences of all the uncertainties in pressure or temperature on the critical strain rate. An application of the anhydrite-clay equilibrium point map on the detachment horizon of the Eastern Jura Mountains (NW Switzerland) implies a maximum simple shear strain rate of ca. 3×10^{-14} /s, or ca. 6×10^{-13} /s, depending upon the differing paleo-temperature estimates. The first estimate is based on the present geothermal gradient, while the second one is based on fluid inclusions which are considered to be related to the Miocene detachment. (author) 28 refs., 5 figs.

Major Descriptors: *TECTONICS -- SHEAR PROPERTIES

Descriptors: ANHYDRITE; CLAYS; GEOLOGY; SWITZERLAND

Broader Terms: ALKALINE EARTH METAL COMPOUNDS; CALCIUM COMPOUNDS; CALCIUM SULFATES; EUROPE; MECHANICAL PROPERTIES; MINERALS; OXYGEN COMPOUNDS; SULFATE MINERALS; SULFATES; SULFUR COMPOUNDS; WESTERN EUROPE

11.

01725470 EDB-86-049144

Author(s): Stowe, R.L.

Title: Creep test of WIPP (Waste Isolation Pilot Plant) site anhydrite core. Final report

Corporate Source: Army Engineer Waterways Experiment Station, Vicksburg, MS (USA). Structures Lab.

Publication Date: Sep 1985 p 30

Report Number(s): AD-A-160444/6/XAB

Abstract: A creep reaction frame, a test-specimen deformation jacket, a data-acquisition system, and a triaxial chamber were readied and verified for their suitability for conducting triaxial creep tests of hard rock. All the equipment was found to be adequate for doing triaxial creep tests. A limited number of creep tests was conducted on anhydrite rock core from the Waste Isolation Pilot Plant (WIPP) site. Three of the four creep stages were observed during the testing. A logarithmic function was found to best fit the transient and steady-state creep stages.

Major Descriptors: *ANHYDRITE -- CREEP; *WIPP -- ROCK MECHANICS

Descriptors: DATA ACQUISITION; DEFORMATION; JACKETS; PILOT PLANTS; TRANSIENTS

Broader Terms: ALKALINE EARTH METAL COMPOUNDS; CALCIUM COMPOUNDS; CALCIUM SULFATES; FUNCTIONAL MODELS; MECHANICAL PROPERTIES; MECHANICS; MINERALS; NATIONAL ORGANIZATIONS; NUCLEAR FACILITIES; OXYGEN COMPOUNDS; PILOT PLANTS; RADIOACTIVE WASTE FACILITIES; SULFATE MINERALS; SULFATES; SULFUR COMPOUNDS; UNDERGROUND FACILITIES; US DOE; US

ORGANIZATIONS

Subject Categories: 052002* -- Nuclear Fuels -- Waste Disposal & Storage

12.

01253057 ERA-08-047546; EDB-83-153058

Author(s): Pfeifle, T.W.; Mellegard, K.D.; Senseny, P.E.

Title: Preliminary constitutive properties for salt and nonsalt rocks from four potential repository sites

Corporate Source: RE/SPEC, Inc., Rapid City, SD (USA)

Publication Date: Jul 1983 p 240 Report Number(s): ONWI-450

Order Number: DE83015777 Contract Number (DOE): AC06-76RL01830; AC02-83CH10140

Note: Portions are illegible in microfiche products. Original copy available until stock is exhausted

Document Type: Report; Numerical data

Journal Announcement: NTS8308 Availability: NTIS, PC A11/MF A01; 1.

Abstract: Results are presented from laboratory strength and creep tests performed on salt and nonsalt specimens from the Richton Dome in Mississippi, the Vacherie Dome in Louisiana, the Permian Basin in Texas, and the Paradox Basin in Utah. The constitutive properties obtained for salt are the elastic moduli and the failure envelope at 24/sup 0/C and parameter values for the exponential-time creep law. Some additional data are presented to indicate how the elastic moduli and strength change with temperature. The nonsalt constitutive properties reported are the elastic moduli, the unconfined compressive strength and the tensile strength at 24/sup 0/C. The properties given in this report will be used in subsequent numerical simulations that will provide information to assist in the screening and selection of site locations for a nuclear waste repository and to assist in the repository design at the selected site. The matrix of tests performed is the minimum effort required to obtain these constitutive properties. The preliminary values obtained will be supplemented by additional testing for sites that are selected for further investigation.;

Major Descriptors: *DOLOMITE -- COMPRESSION STRENGTH; *DOLOMITE -- POISSON RATIO; *DOLOMITE -- YOUNG MODULUS; *LIMESTONE -- COMPRESSION STRENGTH; *LIMESTONE -- POISSON RATIO; *LIMESTONE -- YOUNG MODULUS; *SALT DEPOSITS -- COMPRESSION STRENGTH; *SALT DEPOSITS -- CREEP; *SALT DEPOSITS -- POISSON RATIO; *SALT DEPOSITS -- YOUNG MODULUS; *SANDSTONES -- COMPRESSION STRENGTH; *SANDSTONES -- POISSON RATIO; *SANDSTONES -- YOUNG MODULUS; *SHALES -- COMPRESSION STRENGTH; *SHALES -- POISSON RATIO; *SHALES -- YOUNG MODULUS

Descriptors: ANHYDRITE; ELASTICITY; EXPERIMENTAL DATA; FAILURES; STRAINS; STRESSES; TIME DEPENDENCE

Subject Categories: 580300* -- Mineralogy, Petrology, & Rock Mechanics -- (-1989) 052002 -- Nuclear Fuels -- Waste Disposal & Storage

13.

04063209 E.I. No: EIP95022560048

Title: Survey of the engineering properties of some anhydrite and gypsum from the north and midlands of England

Author: Bell, F.G. Corporate Source: Univ of Natal, Durban, S Afr

Source: Engineering Geology v 38 n 1-2 Dec 1994. p 1-23

Abstract: The Permian and Triassic systems in the north and midlands of England contain notable beds of anhydrite and gypsum. These rocks contain small but varying amounts of muddy material which often has some influence on their geomechanical properties. Anhydrite is a strong to very strong rock in terms of both its unconfined compressive strength and point load index, whereas gypsum is of medium strength according to its unconfined compressive strength and point load porosity of these rocks, porosity does not have a significant influence on their strength. However, the strength and hardness of these rocks are strongly correlated. In terms

of the
slake-durability test, anhydrite has a very high durability and gypsum a high to very high durability, with the stronger rocks yielding higher values of durability. Most anhydrite and gypsum exhibit plastic-elastic-plastic deformation, subsequent plastic deformation occurring at an earlier stage during loading of gypsum than of anhydrite. As far as deformability is concerned, that of anhydrite is very low while that of gypsum varies from low to high. Both rock types experience hysteresis on cyclic loading, that of gypsum being more notable than that of anhydrite and the amount of hysteresis undergone increases with successive cycles of loading and unloading. Anhydrite and gypsum both undergo creep when subjected to constant loading, gypsum being the more prone to creep under constant load. (Author abstract) 25 Refs.

Descriptors: *Rocks; Minerals; Gypsum; Mechanical properties; Compressive strength; Porosity; Durability; Plastic deformation; Hysteresis; Creep

Identifiers: Engineering properties; Anhydrite; Midlands; Muddy materials; Geomechanical properties; Slake durability tests; Deformability

14.

01268226 E.I. Monthly No: EIM8301-000713

Title: GEOTECHNICAL PROPERTIES OF SOME EVAPORITIC ROCKS.

Author: Bell, F. G. Corporate Source: Teesside Polytech, Middlesbrough, Engl

Conference Title: Symposium on Engineering Geological Problems of Construction on Soluble Rocks.

Conference Location: Istanbul, Turk Conference Date: 19810914

E.I. Conference No.: 01389

Source: Bulletin of the International Association of Engineering Geology n 24 Dec 1981 p 137-144

Descriptors: *GEOPHYSICS--*Rock Properties

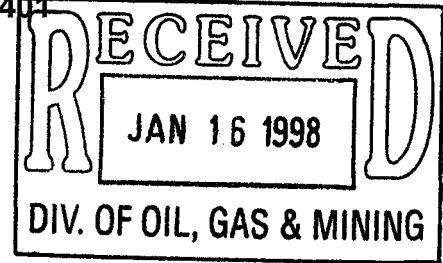
Identifiers: ANHYDRITE; GYPSUM; POTASH; ROCK SALT; SPECIFIC GRAVITY AND DRY DENSITY; POROSITY; STRENGTH IN UNCONFINED COMPRESSION AND IN TENSION; HARDNESS; PLASTIC DEFORMATION; YOUNG'S MODULUS; INCREMENTAL CREEP TESTS

¹ Branagan, P. and Warpinski, N.: 1997, GRI Forum M-Site Experiments Data Interpretation and Implications, Houston, Texas, November 5-6, 1997.

² Cramer, D.D.: 1984, "An Analysis of Post-Stimulation Production Response in the Madison: Elk Area, ND," paper SPE 12922 presented at the 1984 Rocky Mountain Regional Meeting, Casper, WY, May 21-23, 1984.

³ Morgenthaler, L.N.: 1993, "Application of a 3D Hydraulic-Fracturing Simulator for Design of Acid-Fracturing Treatments," paper SPE 25413 presented at the 1993 SPE Production Operations Symposium, Oklahoma City, OK, March 21-23, 1993.

Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397



SWD #2

Requirements R649 - 5 - 2 - 2.3

Copy of a cement bond or comparable log run for the proposed
injection well after casing was set and cemented.

Submitted under separate cover from Dowell / Schlumberger

Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397

SWD #2

Requirements R649 - 5 - 2 - 2.4

Copies of logs already on file with DOGM

Research completed; no logs found

Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397

SWD #2

Requirements R649 - 5 - 2 - 2.5

Description of the casing and proposed testing procedure

**Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397**

SWD #2

Requirements R649 - 5 - 2 - 2.6

A statement as to the type of fluid to be used for injection, its source
and estimated amounts to be injected daily.

The fluid to be injected into SWD #2 will be a composite of waters gathered from gas wells that extract water from the Ferron coal seams. These wells are located within the attached lease list.

It is estimated that up to approximately 15,000 barrels of water will be injected daily.

See Attached List of wells that could be potential water sources

FERRON WELLS

<i>LEASE</i>	<i>NUMBER</i>	<i>LEGAL</i>	<i>API_NUM</i>	<i>Q1</i>	<i>Q2</i>	<i>SEC</i>	<i>TWNSHP</i>	<i>RANGE</i>
A L JENSEN	27-9	660' FSL/660' FEL	4301530259	SE	SE	27	T21S	R6E
D & A JONES	15-68	493' FNL/2425' FW	4301530318	NE	NW	15	T18S	R7E
D & A JONES	9-59	417' FSL/140' FEL	4301530329	SE	SE	9	T18S	R7E
D & D CURTIS	14-54	2127' FNL/572' FEL	4301530319	SE	NE	14	T18S	R7E
FEE	SWD-1	2095' FNL/310' FW	4301530272	SW	NW	24	T18S	R7E
FEE	SWD-2	111' FNL/930' FWL	4301530323	NE	NW	14	T18S	R7E
L & M CURTIS	13-56	872' FSL/228' FWL		SW	SW	13	T18S	R7E
L & M CURTIS	10-58	527' FSL/630' FWL	4301530310	SW	SW	10	T18S	R7E
L & M CURTIS	15-67	297' FNL/ 132' FEL	4301530325	NE	NE	15	T18S	R7E
L M LEMMON	10-1	660' FSL/792' FEL	4301530242	SE	SE	10	T17S	R8E
P & K PEACOCK	8-62	1561' FNL/1698' FE	4301530320	SW	NE	8	T18S	R7E
PEACOCK TRUST	9-60	1625' FSL/605' FW	4301530321	NW	SW	9	T18S	R7E
PEACOCK TRUST	8-63	1514' FNL/1498' F	4301530328	SE	NW	8	T18S	R7E
PEACOCK TRUST	7-64	974' FNL/685' FEL	4301530327	NE	NE	7	T18S	R7E
PEACOCK TRUST	8-61	1980' FSL/660' FEL	4301530326	NE	SE	8	T18S	R7E
R. G. NORRIS	14-40	1628' FSL/1642' F	4301530324	NE	SW	14	T18S	R7E
STATE OF UTAH 'T'	36-10	2168' FNL/1984' FE	4301530268	SW	NE	36	T16S	R7E
STATE OF UTAH 'U'	2-50	1987' FSL/2088' F	4301530308	NE	SW	2	T18S	R7E
STATE OF UTAH 'U'	2-49	2192' FSL/2148' FE	4301530309	NW	SE	2	T18S	R7E

Thursday, January 15, 1998

<i>LEASE</i>	<i>NUMBER</i>	<i>LEGAL</i>	<i>API_NUM</i>	<i>Q1</i>	<i>Q2</i>	<i>SEC</i>	<i>TWNSHP</i>	<i>RANGE</i>
STATE OF UTAH 'U'	2-48	646' FNL/2084' FEL	4301530306	NW	NE	2	T18S	R7E
STATE OF UTAH 'U'	2-11	525' FNL/574' FWL	4301530270	NW	NW	2	T18S	R7E
STATE OF UTAH 'V'	36-16	1015' FNL/615' FEL	4304130028	NE	NE	36	T23S	R4E
STATE OF UTAH 'W'	16-24	1596' FSL/607' FEL	4304130029	NE	SE	16	T22S	R5E
STATE OF UTAH 'X'	16-66	1623' FNL/1744'	4301530311	SE	NW	16	T18S	R7E
STATE OF UTAH 'X'	16-65	305' FNL/1743' FEL	4301530312	NW	NE	16	T18S	R7E
U.P. & L.	24-57	1024' FNL/377' FW	4301530316	NW	NW	24	T18S	R7E
U.P. & L.	14-55	1183' FNL/1075' F	4301530314	NW	NW	14	T18S	R7E
U.P. & L.	14-53	448' FSL/407' FEL	4301530313	SE	SE	14	T18S	R7E
U.P. & L.	23-51	1392' FNL/287' FEL	4301530315	SE	NE	23	T18S	R7E
UTAH FEDERAL 'A'	35-19	2180' FSL/500' FW		NW	SW	35	T18S	R7E
UTAH FEDERAL 'A'	35-5	660' FNL/1980' FEL	4301530248	NW	NE	35	T18S	R7E
UTAH FEDERAL 'A'	26-4	817' FSL/2055' FEL	4301530246	SW	SE	26	T18S	R7E
UTAH FEDERAL 'A'	34-7	788' FNL/849' FEL	4301530249	NE	NE	34	T18S	R7E
UTAH FEDERAL 'A'	26-2	760' FSL/1980' FW	4301530244	SE	SW	26	T18S	R7E
UTAH FEDERAL 'A'	35-6	680' FNL/537' FWL	4301530247	NW	NW	35	T18S	R7E
UTAH FEDERAL 'B'	21-3	2052' FSL/2025' F	4301530243	NE	SW	21	T19S	R7E
UTAH FEDERAL 'C'	23-8	860' FNL/1975' FW	4301530245	NE	NW	23	T18S	R7E
UTAH FEDERAL 'D'	35-15	598' FSL/2099' FEL	4301530287	SW	SE	35	T17S	R7E
UTAH FEDERAL 'D'	34-12	660' FSL/660' FEL	4301530282	SE	SE	34	T17S	R7E
UTAH FEDERAL 'D'	35-13	386' FSL/1137' FW	4301530285	SW	SW	35	T17S	R7E

Thursday, January 15, 1998

<i>LEASE</i>	<i>NUMBER</i>	<i>LEGAL</i>	<i>API_NUM</i>	<i>Q1</i>	<i>Q2</i>	<i>SEC</i>	<i>TWNSHP</i>	<i>RANGE</i>
UTAH FEDERAL 'D'	35-14	1249' FNL/360' FW	4301530286	NW	NW	35	T17S	R7E
UTAH FEDERAL 'E'	3-17	2053' FSL/763' FEL		NE	SE	3	T18S	R7E
UTAH FEDERAL 'F'	34-18	910' FNL/399' FWL		NW	NW	34	T18S	R7E
UTAH FEDERAL 'G'	3-20	1905' FSL/694' FEL		NE	SE	3	T17S	R8E
UTAH FEDERAL 'H'	6-21	766' FSL/1451' FW	4301530294	SE	SW	6	T20S	R7E
UTAH FEDERAL 'I'	33-22	1980' FNL/500' FEL	4301530296	SE	NE	33	T21S	R6E
UTAH FEDERAL 'J'	25-23	1981' FNL/981' FW		SW	NW	25	T21S	R6E
UTAH FEDERAL 'K'	5-37	715' FSL/2194' FEL		SW	SE	5	T17S	R8E
UTAH FEDERAL 'K'	5-34	1984' FSL/788' FW		NW	SW	5	T17S	R8E
UTAH FEDERAL 'K'	5-36	2011' FNL/742' FEL		SE	NE	5	T17S	R8E
UTAH FEDERAL 'K'	5-35	2020' FNL/2067' F		SE	NW	5	T17S	R8E
UTAH FEDERAL 'M'	6-25	2297' FNL/1130' FE	4301530292	SE	NE	6	T17S	R8E
UTAH FEDERAL 'P'	10-47	461' FNL/746' FWL	4301530258	NW	NW	10	T18S	R7E
UTAH FEDERAL 'P'	10-42	1285' FNL/1742' FE	4301530276	NW	NE	10	T18S	R7E
UTAH FEDERAL 'P'	10-43	1700' FSL/1600' FE	4301530277	NW	SE	10	T18S	R7E
UTAH FEDERAL 'Q'	4-44	165' FSL/914' FEL	4301530280	SE	SE	4	T18S	R7E
UTAH FEDERAL 'R'	9-45	711' FNL/2178' FEL	4301530275	NW	NE	9	T18S	R7E
UTAH FEDERAL 'S'	8-46	805' FSL/2016' FW	4301530274	SE	SW	8	T18S	R7E

Thursday, January 15, 1998

**Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397**

SWD #2

Requirements R649 - 5 - 2 - 2.7

Standard laboratory analyses of the fluid to be injected,
the fluid in the formation into which the fluid is being injected,
and the compatibility of the fluids.

**FAX TRANSMITTAL COVER SHEET****NOTE: DO NOT USE BLUE OR RED INK OR PENCIL ON THIS FORM. THEY WILL NOT REPRODUCE**DATE: JAN 30, 1998 ~~01-29-98~~ ☒ URGENT ☐ ROUTINE NO. OF PAGES C+1MESSAGE TO: Lisha CordovaTELEPHONE NO. (801) 538 5296 FAX MACHINE NO. 801 359-3940DEPT./DIV./SUBS. Wah OGMLOCATION Salt Lake ROOM NO. _____MESSAGE FROM: Tami DenetsuTELEPHONE NO. 505 325 4397 FAX MACHINE NO. 505 325 5398

DEPT./DIV./SUBS. _____

LOCATION FARMINGTON NM ROOM NO. _____

SENDING DEPT. APPROVAL _____ TIME TRANSMITTED _____

☐ RETURN ORIGINAL VIA INTER-OFFICE MAIL☐ RETURN ORIGINAL CALL SENDER TO PICK UPADDITIONAL COMMENTS:

STATE OF NEW MEXICO
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - FORM 6

OPERATOR TEXACO E & P INC.

OPERATOR ACCT. NO. H 5700

ADDRESS 3300 N. BUTLER

FARMINGTON, NM 87401

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION				COUNTY	SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG			
A	99999	12278	4301530325	L.M. Curtis 15-67	NE/NE	15	18S	7E	Emery	8/8/97	
WELL 1 COMMENTS: Entity added 1-30-98. Lec											
A	99999	12279	4301530323	SWD # 2	NE/NW	24	18S	7E	Emery	8/3/97	
WELL 2 COMMENTS: Entity added 1-30-98. Lec											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

ACTION CODES (See instructions on back of form)

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)


Signature

Admin. Associate III
Title

1/30/98
Date

Phone No. (505) 325-4397

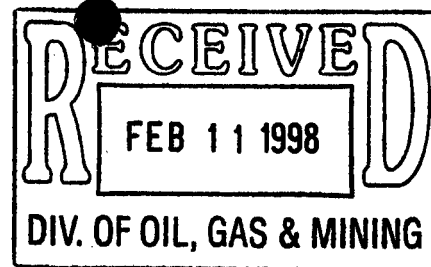
P.2/2

JAN 30 '98 02:16PM



MONTGOMERY WATSON

December 18, 1997



Texaco Exploration and Production, Inc.
P.O. Box 2100, Room 532
Denver, Colorado 80201

ATTN: Mr. R.A. Lamarre

Subject: Summary of Hydrologic Modeling of SWD #1 and SWD #2, Emery
County, Utah

Dear Bob:

This letter-report is a summary of hydrologic modeling performed in support of the Texaco Exploration and Production Ferron Coalbed Methane Project in Emery County, Utah. Montgomery Watson used the THWELLS model to simulate the effects of injection of water produced from the Ferron Sandstone into the Navajo Sandstone, through salt water disposal wells SWD #1 and SWD #2.

According to information provided by Texaco, SWD #1 is located at 2095' FNL, 310' FWL, Section 24, Township 18 South, Range 7 East; SWD #2 is located at 386' FNL, 767' FWL, Section 14, Township 18 South, Range 7 East, Salt Lake Base and Meridian. The ground level elevation at SWD #1 is 5,987 feet above mean sea level (amsl). SWD #1 is perforated in three zones across the Navajo Sandstone, between 6,674 and 6,877 feet below ground level. The elevation at SWD #2 is 6,040 feet amsl. SWD #2 is also perforated in three zones across the Navajo, between 7,078 and 7,296 feet below ground level.

We understand that average injection rates during the anticipated 30-year life of the project are estimated to be approximately 100 gallons per minute (gpm) in both disposal wells. The THWELLS model was run assuming injection rates in both wells of 100 gpm and 500 gpm, over periods of 5, 10, and 30 years. The attached figures depict the modeled potentiometric surface for each of the six scenarios. As demonstrated by hydrologic modeling of SWD #1 injection performed by Montgomery Watson in 1996 (the results of which were presented during a hearing before the Board of the Utah Division of Oil, Gas and Mining on April 24, 1996), injection to the Navajo will produce a high but relatively restricted groundwater mound. Injection through both SWD #1 and SWD #2 will produce a similar effect.

According to the results of the simulation, at an injection rate of 100 gpm over 5 years, the maximum hydraulic head produced would be 6,070 feet, with little change in the potentiometric surface outside a 3-mile radius from SWD #1 and SWD #2 (Figure 1). At 100 gpm over 10 years, the maximum head would be 6,190 feet, with a radius of influence of approximately 4 miles (Figure 2). At a rate of 100 gpm over 30 years, the maximum head produced would be 6,360 feet, and the radius of influence would extend approximately 6 miles from the injection wells (Figure 3).

Mr. R.A. Lamarre
December 18, 1997
Page 2

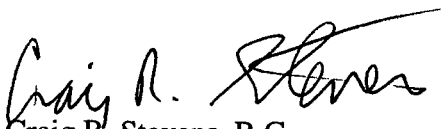
At an injection rate of 500 gpm over 5 years, the maximum hydraulic head produced would be 8,960 feet, with radius of influence of 4 miles from SWD #1 and SWD #2 (Figure 4). At 500 gpm over 10 years, the maximum head would be 9,540 feet, with a radius of influence of approximately 5 miles (Figure 5). At a rate of 500 gpm over 30 years, the maximum head produced would be 10,390 feet, and the radius of influence would extend approximately 8 miles from the injection wells (Figure 6).

The results of the modeling effort indicate that injection to the Navajo Sandstone aquifer will result in a high, steep groundwater mound of limited radius from SWD #1 and SWD #2. This effect will be relatively minor under the projected average injection rates and project life (best represented by Figure 3). Further, as discussed in our letter-report dated December 14, 1995, analytical results indicate that water produced from the Ferron Sandstone is less saline than that in the Navajo Sandstone aquifer in the vicinity of SWD #1 and SWD #2; the injection of Ferron groundwater may actually improve the quality of Navajo groundwater in the vicinity of the injection wells.

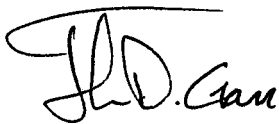
Again, we appreciate the opportunity to be of service to Texaco, and look forward to further assisting you on this and other projects. If you have any questions or require additional information, please do not hesitate to call me at (801) 273-2472, or John Garr at (801) 273-2416.

Sincerely,

MONTGOMERY WATSON



Craig R. Stevens, R.G.
Senior Hydrogeologist



John D. Garr, R.G.
Supervising Hydrogeologist

Attachments



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

February 9, 1998

Sun Advocate
P. O. Box 870
845 East Main
Price, Utah 84501-0870

Re: Notice of Agency Action - Cause No. 205

Gentlemen:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please send proof of publication and billing to the Division of Oil, Gas and Mining, 1594 West North Temple, Suite 1210, P.O. Box 145801, Salt Lake City, Utah 84114-5801.

Sincerely,

Larraine Platt

Larraine Platt
Secretary

Enclosure

BEFORE THE DIVISION OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

---ooOoo---

IN THE MATTER OF THE	:	NOTICE OF AGENCY
APPLICATION OF TEXACO E & P,	:	ACTION
INC. FOR ADMINISTRATIVE	:	
APPROVAL OF THE SWD #2 WELL	:	CAUSE NO. UIC-205
LOCATED IN SECTION 14,	:	
TOWNSHIP 18 SOUTH, RANGE 7	:	
EAST, S.L.M., EMERY COUNTY,	:	
UTAH, AS A CLASS II INJECTION	:	
WELL	:	

---ooOoo---

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER.

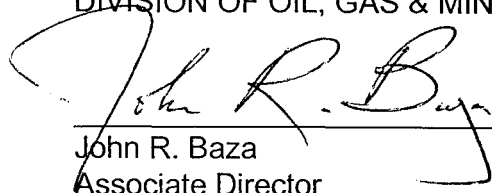
Notice is hereby given that the Division of Oil, Gas and Mining (the "Division") is commencing an informal adjudicative proceeding to consider the application of Texaco Exploration & Production Inc. for administrative approval of the SWD #2 well, located in Section 14, Township 18 South, Range 7 East, Emery County, Utah, for conversion to a Class II injection well. The proceeding will be conducted in accordance with Utah Admin. R.649-10, Administrative Procedures.

The interval from 7078 feet to 7296 feet (Navajo Formation) will be selectively perforated for water injection. The maximum requested injection pressure is 1750 psig with a maximum rate of 15,000 BWPD.

Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days following publication of this notice. If such a protest or notice of intervention is received, a hearing will be scheduled before the Board of Oil, Gas and Mining. Protestants and/or intervenors should be prepared to demonstrate at the hearing how this matter affects their interests.

Dated this 9th day of February 1998

STATE OF UTAH
DIVISION OF OIL, GAS & MINING



John R. Baza
Associate Director



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

February 9, 1998

Newspaper Agency Corporation
Legal Advertising
PO Box 45838
Salt Lake City, Utah 84145

Re: Notice of Agency Action - Cause No. UIC-205

Gentlemen:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please send proof of publication and billing to the Division of Oil, Gas and Mining, 1594 West North Temple, Suite 1210, P.O. Box 145801, Salt Lake City, Utah 84114-5801.

Sincerely,

Larraine Platt
Secretary

Enclosure

**Texaco E & P, Inc.
SWD #2 Well
Cause No. UIC-205**

Publication Notices were sent to the following:

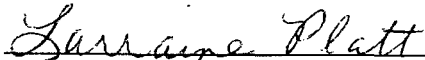
Texaco E & P, Inc.
3300 North Butler
Farmington, New Mexico 87401

Newspaper Agency Corporation
Legal Advertising
P.O. Box 45838
Salt Lake City, Utah 84145

Sun Advocate
P. O. Box 870
845 East Main
Price, Utah 84501-0870

Bureau of Land Management
Price Field Office
125 South 600 West
Price, Utah 84501

U.S. Environmental Protection Agency
Region VIII
Attn: Dan Jackson
999 18th Street
Denver, Colorado 80202-2466



Lorraine Platt
Secretary
February 9, 1998


AFFIDAVIT OF PUBLICATION

STATE OF UTAH)


SS.

County of Carbon,)

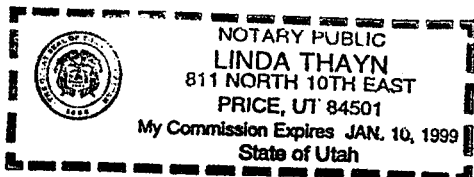
I, Kevin Ashby, on oath, say that I am the Publisher of the Sun Advocate, a twice-weekly newspaper of general circulation, published at Price, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue of such newspaper for 1 (One) consecutive issues, and that the first publication was on the 17th day of February, 1998 and that the last publication of such notice was in the issue of such newspaper dated the 17th day of February, 1998.


Kevin Ashby - Publisher

Subscribed and sworn to before me this 17th day of February, 1998.


Notary Public My commission expires January 10, 1999 Residing at Price, Utah

Publication fee, \$66.00



NOTICE OF AGENCY ACTION
CAUSE NO. UIC-205
BEFORE THE DIVISION OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF TEXACO EXP. INC. FOR ADMINISTRATIVE APPROVAL OF THE SWD #2 WELL LOCATED IN SECTION 14, TOWNSHIP 18 SOUTH, RANGE 7 EAST, S.1.M., EMERY COUNTY, UTAH, AS A CLASS II INJECTION WELL
THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER:

Notice is hereby given that the Division of Oil, Gas and Mining (the "Division") is commencing an informal adjudicative proceeding to consider the application of Texaco Exploration & Production Inc. for administrative approval of the SWD #2 well, located in Section 14, Township 18 South, Range 7 East, Emery County, Utah, for conversion to a Class II injection well. The proceeding will be conducted in accordance with Utah Admin. R. 649-10, Administrative Procedures.

The interval from 7078 feet to 7296 feet (Navajo Formation) will be selectively perforated for water injection. The maximum requested injection pressure is 1750 psig with a maximum rate of 15,000 BWPD.

Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days following publication of this notice. If such a protest or notice of intervention is received, a hearing will be scheduled before the Board of Oil, Gas and Mining. Protestants and/or intervenors should be prepared to demonstrate at the hearing how this matter affects their interests.

Dated this 9th day of February 1998

STATE OF UTAH
DIVISION OF OIL, GAS & MINING
John R. Baza
Associate Director

Published in the Sun Advocate February 17, 1998.

143 SOUTH MAIN ST.
P.O. BOX 45838
SALT LAKE CITY, UTAH 84145
FED. TAX I.D.# 87-0217663

Newspaper Agency Corporation

The Salt Lake Tribune



DESERET NEWS

CUSTOMER'S
COPY

PROOF OF PUBLICATION

CUSTOMER NAME AND ADDRESS	ACCOUNT NUMBER	DATE
DIV OF OIL GAS & MAINING 1594 WEST NORTH TEMPLE, SUITE 1210, BX 145801 SALT LAKE CITY, UT 84114	D5385340L-07	02/06/98

ACCOUNT NAME	
DIV OF OIL GAS & MAINING	
TELEPHONE	INVOICE NUMBER
801-538-5340	TL238200781
SCHEDULE	
START 02/06/98 END 02/06/98	
CUST. REF. NO.	
UIC-204	
CAPTION	
NOTICE OF AGENCY ACTION CAUSE N	
SIZE	
74 LINES 1.00 COLUMN	
TIMES	RATE
1	1.16
MISC. CHARGES	AD CHARGES
.00	85.84
TOTAL COST	
85.84	

NOTICE OF AGENCY ACTION
CAUSE NO. UIC-204
BEFORE THE DIVISION OF
OIL, GAS AND MINING
DEPARTMENT OF NATURAL
RESOURCES, STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF INLAND PRODUCTION COMPANY FOR ADMINISTRATIVE APPROVAL OF THE MONUMENT STATE 13-2, 11-2, AND 31-2 WELLS LOCATED IN SECTION 2, TOWNSHIP 9 SOUTH, RANGE 17 EAST, SLM, DUCHESNE AND UTAH COUNTIES, UTAH, AS CLASS II INJECTION WELLS.

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that the Division of Oil, Gas and Mining (the "Division") is commencing an informal adjudicative proceeding to consider the application of Inland Production Company for administrative approval of the Monument State 13-2, 11-2 and 31-2 wells, located in Section 2, Township 9 South, Range 17 East, Duchesne and Utah Counties, Utah, for conversion to Class II injection wells. The proceeding will be conducted in accordance with Utah Admin. R.649-10, Administrative Procedures.

The Douglas Creek Member of the Green River Formation will be selectively perforated for water injection. The maximum injection pressure will be determined on a well by well basis based on fracture gradient information submitted by Inland.

Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days of the date of publication of this notice. If such a protest or notice of intervention is received, a hearing will be scheduled before the Board of Oil, Gas and Mining. Protestants and/or intervenors should be prepared to demonstrate at the hearing how this matter affects their interests.

DATED this 29th day of January, 1998.

STATE OF UTAH
DIV. OF OIL, GAS AND MINING
/s/ John R. Baza
Associate Director, Oil and Gas
23820070

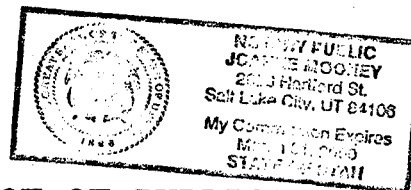
AFFIDAVIT OF PUBLICATION

NEWSPAPER AGENCY CORPORATION LEGAL BOOKKEEPER, I CERTIFY THAT THE ATTACHED PUBLICATION OF NOTICE OF AGENCY ACTION CAUSE N FOR DIV OF OIL GAS & MAINING WAS PUBLISHED BY THE NEWSPAPER AGENCY CORPORATION, AGENT FOR THE SALT LAKE TRIBUNE AND DESERET NEWS, DAILY NEWSPAPERS IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH.

STARTED ON 02/06/98 END 02/06/98

BY James Rooney

02/06/98



IS NOT A STATEMENT BUT A "PROOF OF PUBLICATION"
PLEASE PAY FROM BILLING STATEMENT.

2871 REC 6131 NUADBOIG 6ED8

143 SOUTH MAIN ST.
P.O. BOX 45838
SALT LAKE CITY, UTAH 84145
FED. TAX I.D.# 87-0217663

Newspaper Agency Corporation

The Salt Lake Tribune



DESERET NEWS

CUSTOMER'S
COPY

PROOF OF PUBLICATION

CUSTOMER NAME AND ADDRESS	ACCOUNT NUMBER	DATE
DIV OF OIL GAS & MAINING 1594 WEST NORTH TEMPLE, SUITE 1210, BX 145801 SALT LAKE CITY, UT 84114	D5385340L-07	02/06/98

ACCOUNT NAME	
DIV OF OIL GAS & MAINING	
TELEPHONE	INVOICE NUMBER
801-538-5340	TL238200881
SCHEDULE	
START 02/06/98 END 02/06/98	
CUST. REF. NO.	
UIC-203	
CAPTION	
NOTICE OF AGENCY ACTION CAUSE N	
SIZE	
76 LINES 1.00 COLUMN	
TIMES	RATE
1	1.16
MISC. CHARGES	AD CHARGES
.00	88.16
TOTAL COST	
88.16	

NOTICE OF AGENCY ACTION
CAUSE NO. UIC-203
BEFORE THE DIVISION OF
OIL, GAS AND MINING
DEPARTMENT OF NATURAL
RESOURCES, STATE OF UTAH

IN THE MATTER OF THE APPLI-
CATION OF INLAND PRODUCTION
COMPANY FOR ADMINISTRATIVE
APPROVAL OF THE MONUMENT
SUITE FEDERAL 3-26, 5-26, 7-26,
11-26, 13-26, AND 9-27 WELLS
LOCATED IN SECTIONS 26 AND
27, TOWNSHIP 8 SOUTH, RANGE
16 EAST, S.L.M., DUCHESNE
COUNTY, UTAH, AS CLASS II IN-
JECTION WELLS.

THE STATE OF UTAH TO ALL PER-
SONS INTERESTED IN THE ABOVE
ENTITLED MATTER.

Notice is hereby given that
the Division of Oil, Gas and Min-
ing (the "Division") is commencing
an informal adjudicative
proceeding to consider the ap-
plication of Inland Production
Company for administrative
approval of the Monument
Suite Federal 3-26, 5-26, 7-26, 11-
26, 13-26, and 9-27 wells, located
in Sections 26 and 27, Town-
ship 8 South, Range 16 East,
Duchesne County, Utah, for
conversion to Class II injection
wells. The proceeding will be
conducted in accordance with
Utah Admin. R. 649-40, Adminis-
trative Procedures.

The Douglas Creek Member
of the Green River Formation
will be selectively perforated for
water injection. The maximum
injection pressure will be deter-
mined on a well by well basis,
based on fracture gradient in-
formation submitted by Inland.

Any person desiring to object
to the application or otherwise
intervene in the proceeding,
must file a written protest or no-
tice of intervention with the Divi-
sion within fifteen days of the
date of publication of this no-
tice. If such a protest or notice
of intervention is received, a
hearing will be scheduled be-
fore the Board of Oil, Gas and
Mining. Protestants and/or in-
tervenors should be prepared
to demonstrate at the hearing
how this matter affects their in-
terests.

DATED this 29th day of Janu-
ary, 1998.

STATE OF UTAH
DIV. OF OIL, GAS AND MINING
/s/ John R. Bozza
Associate Director, Oil and Gas
3820080

AFFIDAVIT OF PUBLICATION

NEWSPAPER AGENCY CORPORATION LEGAL BOOKKEEPER, I CERTIFY THAT THE ATTACHED
ADVERTISEMENT OF NOTICE OF AGENCY ACTION CAUSE N FOR

OF OIL GAS & MAINING

WAS PUBLISHED BY THE NEWSPAPER AGENCY

CORPORATION, AGENT FOR THE SALT LAKE TRIBUNE AND DESERET NEWS, DAILY NEWSPAPERS
PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED
SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH.

STARTED ON START 02/06/98 END 02/06/98

NATURE

02/06/98

**THIS IS NOT A STATEMENT BUT A "PROOF OF PUBLICATION"
PLEASE PAY FROM BILLING STATEMENT.**



PROOF OF PUBLICATION

CUSTOMER NAME AND ADDRESS	ACCOUNT NUMBER	DATE
DIV OF OIL GAS & MAINING 1594 WEST NORTH TEMPLE, SUITE 1210, BX 145801 SALT LAKE CITY, UT 84114	D5385340L-07	02/14/98

ACCOUNT NAME	
DIV OF OIL GAS & MAINING	
TELEPHONE	INVOICE NUMBER
801-538-5340	TL2B8201581
SCHEDULE	
START 02/14/98 END 02/14/98	
CUST. REF. NO.	
UIC-205	
CAPTION	
NOTICE OF AGENCY ACTION CAUSE N	
SIZE	
69 LINES 1.00 COLUMN	
TIMES	RATE
1	1.64
MISC. CHARGES	AD CHARGES
.00	113.16
TOTAL COST	
113.16	

NOTICE OF AGENCY ACTION
CAUSE NO. UIC-205
BEFORE THE DIVISION OF
OIL, GAS AND MINING
DEPARTMENT OF NATURAL
RESOURCES, STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF TEXACO E & P, INC. FOR ADMINISTRATIVE APPROVAL OF THE SWD #2 WELL LOCATED IN SECTION 14, TOWNSHIP 18 SOUTH, RANGE 7 EAST, SLM, EMERY COUNTY, UTAH, AS A CLASS II INJECTION WELL.

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that the Division of Oil, Gas and Mining (the "Division") is commencing an informal adjudicative proceeding to consider the application of Texaco Exploration (Production) Inc. for administrative approval of the SWD #2 well, located in Section 14, Township 18 South, Range 7 East, Emery County, Utah, for conversion to a Class II Injection well. The proceeding will be conducted in accordance with Utah Admin. R.649-10, Administrative Procedures.

The interval from 7078 feet to 296 feet (Navajo Formation) will be selectively perforated for water injection. The maximum requested injection pressure is 750 psig with a maximum rate of 15,000 BWPD.

Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days following publication of this notice. If such a protest or notice of intervention is received, a hearing will be scheduled before the Board of Oil, Gas and Mining. Protestants and/or intervenors should be prepared to demonstrate at the hearing how this matter affects their interests.

DATED this 9th day of February, 1998.

STATE OF UTAH
DIV. OF OIL, GAS AND MINING
John R. Baza
Associate Director
3820150

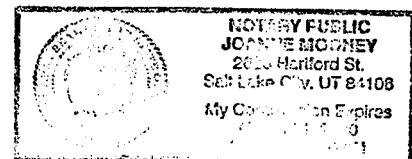
DATE 02/14/98

NEWSPAPER AGENCY CORPORATION LEGAL BOOKKEEPER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF NOTICE OF AGENCY ACTION CAUSE N FOR OF OIL GAS & MAINING WAS PUBLISHED BY THE NEWSPAPER AGENCY CORPORATION, AGENT FOR THE SALT LAKE TRIBUNE AND DESERET NEWS, DAILY NEWSPAPERS PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH.

LISHED ON START 02/14/98 END 02/14/98

NATURE

Joanne Mooney



THIS IS NOT A STATEMENT BUT A "PROOF OF PUBLICATION"
PLEASE PAY FROM BILLING STATEMENT.

2871 REC 6131 NUAD8016 GED8

AFFIDAVIT OF PUBLICATION

County of Duchesne,
STATE OF UTAH

I, Craig L. Ashby on oath, say that I am the PUBLISHER of the Uintah Basin Standard, a weekly newspaper of general circulation, published at Roosevelt, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue such newspaper for 1 consecutive issues, and that the first publication was on the 10 day of Feb, 1998, and that the last publication of such notice was in the issue of such newspaper dated the 10 day of Feb, 1998.

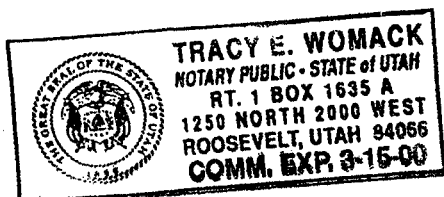


Publisher

Subscribed and sworn to before me this
17 day of Feb, 1998



Notary Public



NOTICE OF AGENCY ACTION

CAUSE NO. UIC-204
IN THE MATTER OF
THE APPLICATION OF
INLAND PRODUCTION
COMPANY FOR AD-
MINISTRATIVE AP-
PROVAL OF THE
MONUMENT STATE
13-2, 11-2, AND 31-2
WELLS LOCATED IN
SECTION 2, TOWNSHIP
9 SOUTH, RANGE 17
EAST, S.L.M.
DUCHESNE AND
UINTAH COUNTIES,
UTAH, AS CLASS II IN-
JECTION WELLS.

THE STATE OF
UTAH TO ALL PERSON
INTERESTED IN THE
ABOVE ENTITLED
MATTER.

Notice is hereby given
that the Division of Oil,
Gas and Mining (the "Division") is commencing an
informal adjudicative pro-
ceeding to consider the ap-
plication of Inland Produc-
tion Company for adminis-
trative approval of the
Monument State 13-2, 11-
2 and 31-2 wells, located in
Section 2, Township 9
South, Range 17 East,
Duchesne and Uintah Coun-
ties, Utah, for conversion
to Class II injection wells.
The proceeding will be con-
ducted in accordance with
Utah Admin. R. 649-10,
Administrative Procedures.

The Douglas Creek
Member of the Green River
Formation will be selec-
tively perforated for water
injection. The maximum
injection pressure will be
determined on a well by
well basis, based on frac-
ture gradient information
submitted by Inland.

Any person desiring to
object to the application or
otherwise intervene in the
proceeding must file a writ-
ten protest or notice of in-
tervention with the Divi-
sion within fifteen days of
the date of publication of
this notice. If such a protest
or notice of intervention is
received, a hearing will be
scheduled before the Board
of Oil, Gas and Mining.
Protestants and/or interve-
nors should be prepared to
demonstrate at the hearing
how this matter affects
their interests.
DATED this 29th day
of January, 1998.
State of Utah, Division
of Oil, Gas and Mining
John R. Baza, Associate
Director, Oil and Gas
Published in the Uintah
Basin Standard February
10, 1998.

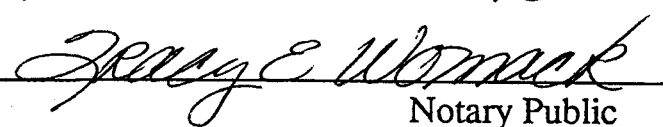
AFFIDAVIT OF PUBLICATION

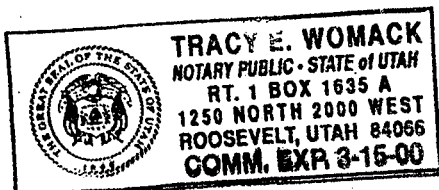
County of Duchesne,
STATE OF UTAH

I, Craig L. Ashby on oath, say that I am the PUBLISHER of the Uintah Basin Standard, a weekly newspaper of general circulation, published at Roosevelt, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue such newspaper for 1 consecutive issues, and that the first publication was on the 10 day of Feb, 1998, and that the last publication of such notice was in the issue of such newspaper dated the 10 day of Feb, 1998.


Publisher

Subscribed and sworn to before me this
17 day of Feb, 1998


Notary Public



NOTICE OF AGENCY ACTION

CAUSE NO. UIC-203
IN THE MATTER OF
THE APPLICATION OF
INLAND PRODUCTION
COMPANY FOR AD-
MINISTRATIVE AP-
PROVAL OF THE
MONUMENT BUTTE
FEDERAL 3-26, 5-26, 7-
26, 11-26, 13-26, AND 9-
27 WELLS LOCATED IN
SECTIONS 26 AND 27,
TOWNSHIP 8 SOUTH,
RANGE 16 EAST, S.L.M.,
DUCESNE COUNTY,
UTAH, AS CLASS II IN-
JECTION WELLS.
THE STATE OF
UTAH TO ALL PER-
SONS INTERESTED IN
THE ABOVE ENTITLED
MATTER.

Notice is hereby given that the Division of Oil, Gas and Mining (the "Division") is commencing an informal adjudicative proceeding to consider the application of Inland Production Company for administrative approval of the Monument Butte Federal 3-26, 5-26, 7-26, 11-26, 13-26, and 9-27 wells, located in Sections 26 and 27, Township 8 South, Range 16 East, Duchesne County, Utah, for conversion to Class II injection wells. The proceeding will be conducted in accordance with Utah Admin. R. 649-10, Administrative Procedures.

The Douglas Creek Member of the Green River Formation will be selectively perforated for water injection. The maximum injection pressure will be determined on a well by well basis, based on fracture gradient information

submitted by Inland. Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days of the date of publication of this notice. If such a protest or notice of intervention is received, a hearing will be scheduled before the Board of Oil, Gas and Mining. Protestants and/or intervenors should be prepared to demonstrate at the hearing how this matter affects their interests.

DATED this 129th day of January, 1998.
State of Utah Division of Oil, Gas and Mining, John R. Baza, Associate Director, Oil and Gas.
Published in the Uintah Basin Standard February 10, 1998.



The map shows the Colorado River flowing from the top right towards the bottom left. Miller Creek is a tributary flowing into the river. Several wells are marked with dots and labeled: 'Wellingtown', 'Miller Creek', 'Older Rivermouth', 'McKean Well', 'Desert Sand Well', and 'Pine River'. The map is divided into sections by latitude and longitude lines, with labels 'T 14 S', 'T 15 S', 'R 11 E', and 'R 12 E'. A scale bar at the bottom left indicates 'gpm Injection' and 'Years'. A north arrow is located at the bottom right.

$K = 0.03$ ft/day - 100 gpm Injection
Both Wells for 5 Years

SWD #1

Castle Dale

UP&L Test Wells

**Navajo Sandstone
Outcrop/Recharge Area**

RECEIVED
FEB 11 1998

DIV. OF OIL, GAS & MINING

FIGURE 1

☐

**Drunkard's Wash
Well D-1**

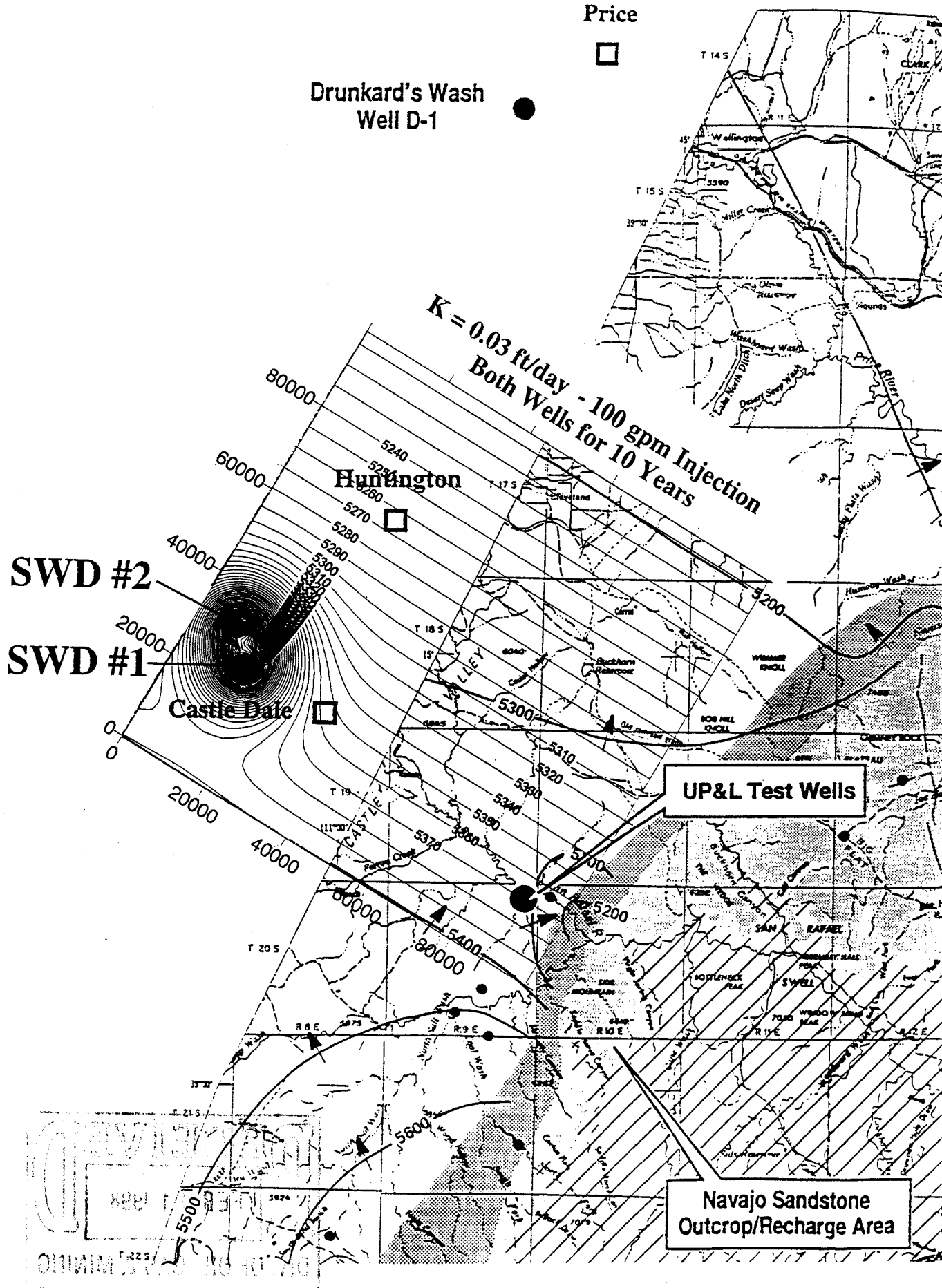


FIGURE 2

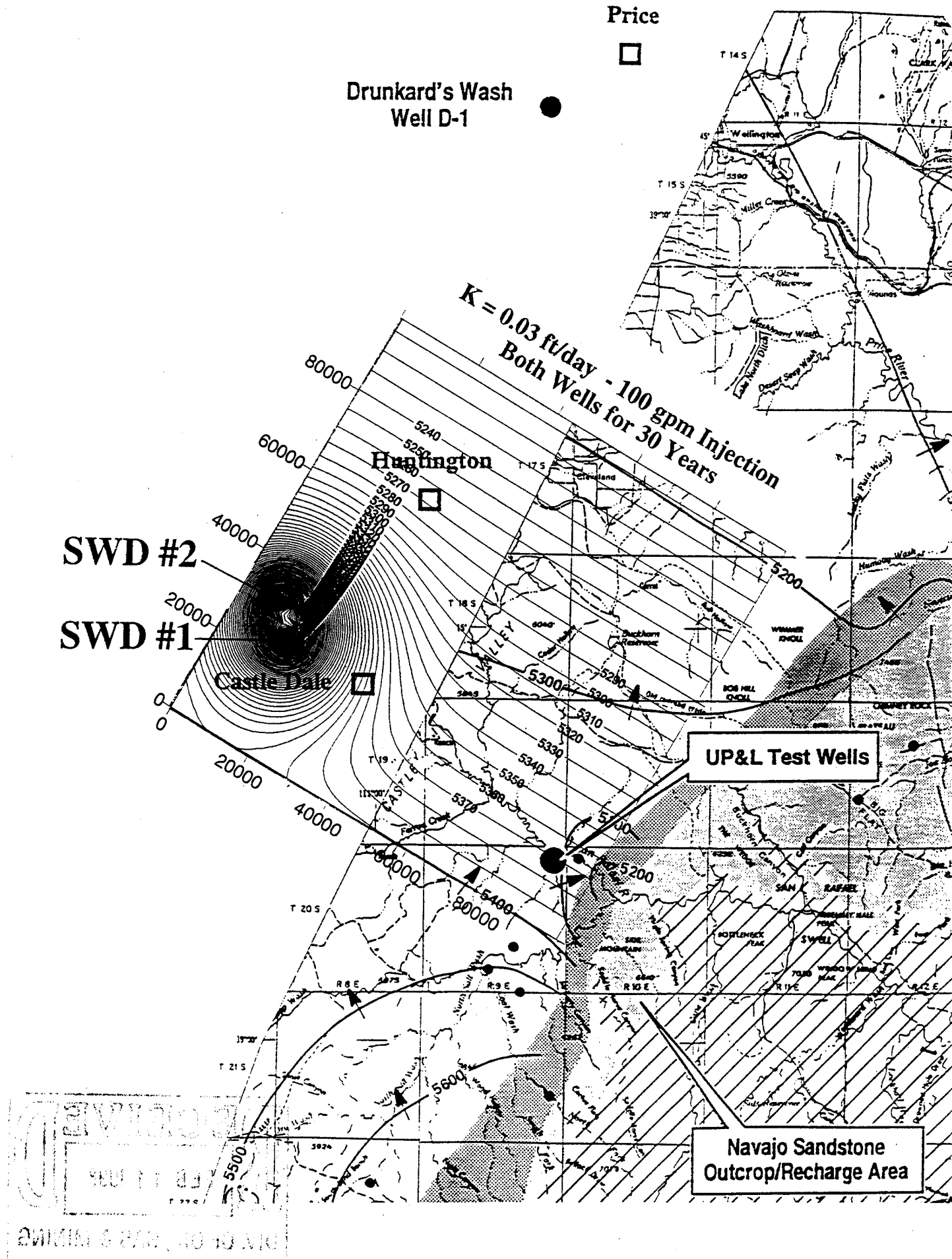


FIGURE 3

Drunkard's Wash Well D-1

$K = 0.03$ ft/day - 500 gpm Injection
Both Wells for 5 Years

SWD #2

SWD #1

UP&L Test Wells

**Navajo Sandstone
Outcrop/Recharge Area**

FIGURE 4

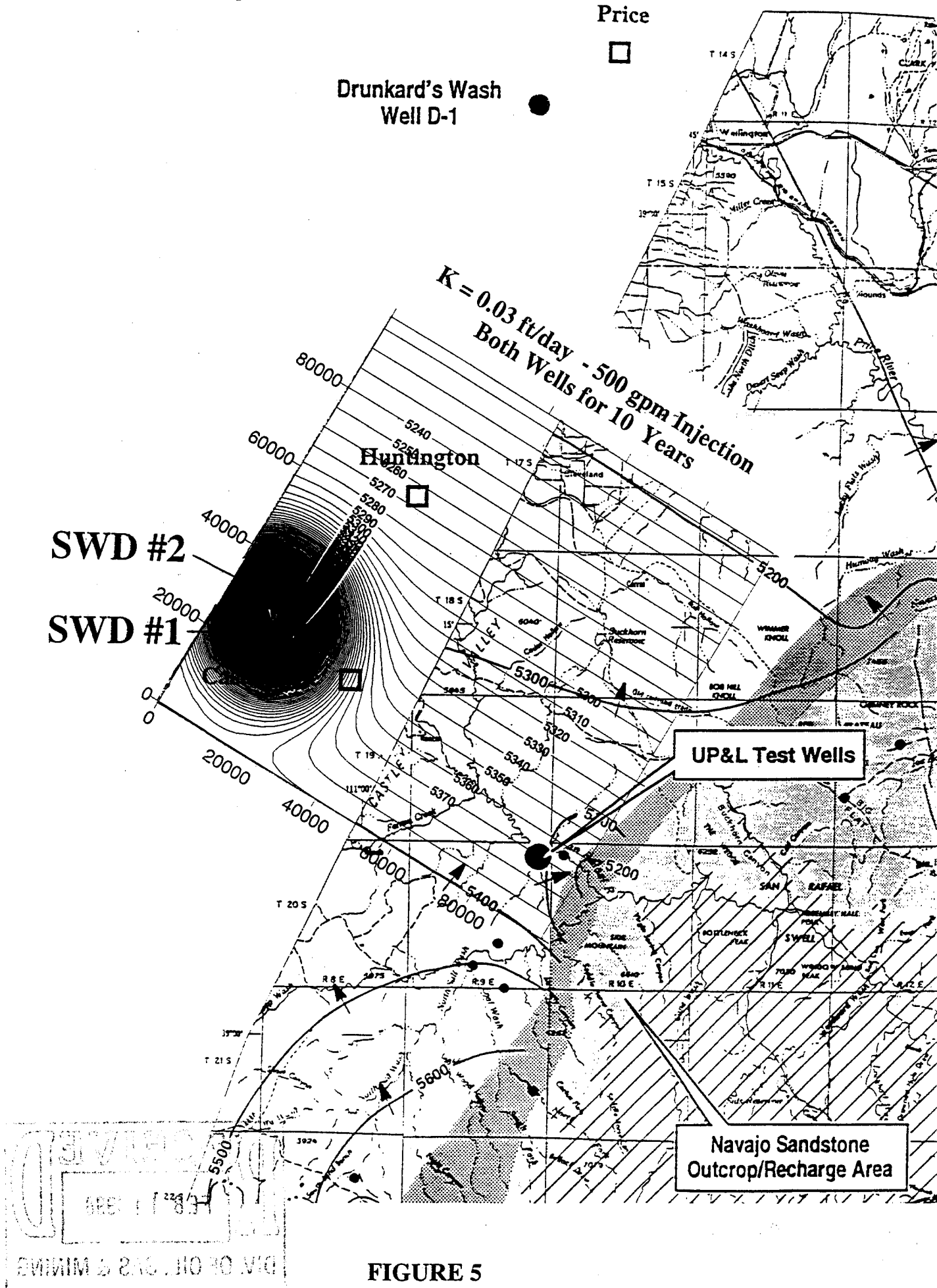


FIGURE 5

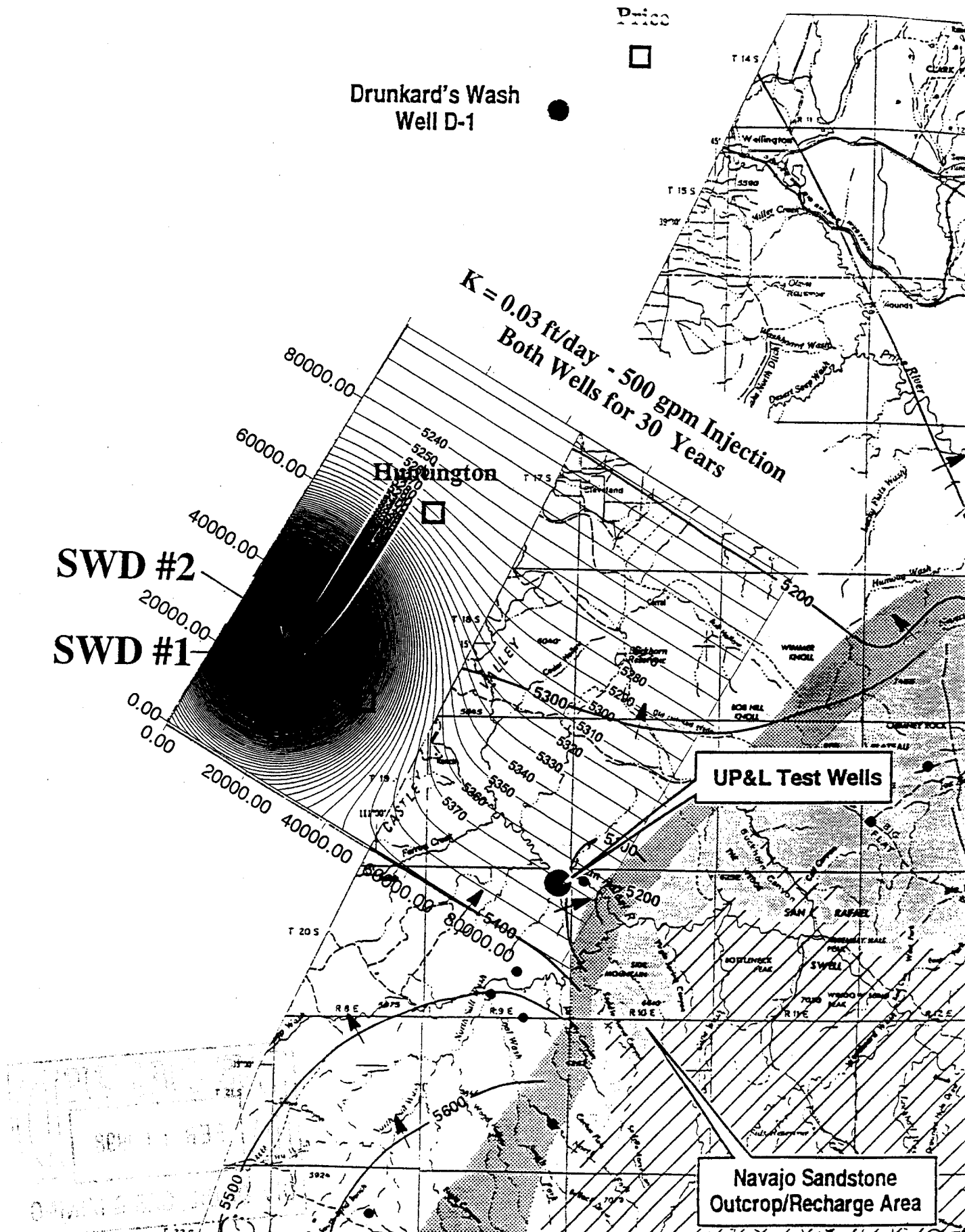


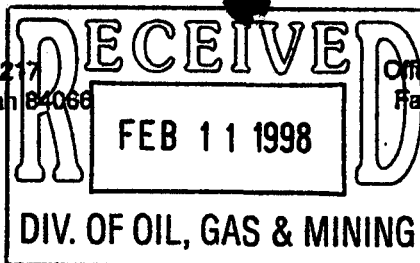
FIGURE 6

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727



WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 11-19-97

Source SWD # 1 Date Sampled 11-14-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.3</u>		
2. H ₂ S (Qualitative)	<u>9.0</u>		
3. Specific Gravity	<u>1.012</u>		
4. Dissolved Solids		<u>13,996</u>	
5. Alkalinity (CaCO ₃)		CO ₃ <u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ <u>7,600</u>	÷ 61 <u>125</u> HCO ₃
7. Hydroxyl (OH)		OH <u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>2,100</u>	÷ 35.5 <u>60</u> Cl
9. Sulfates (SO ₄)		SO ₄ <u>0</u>	÷ 48 <u>0</u> SO ₄
10. Calcium (Ca)		Ca <u>80</u>	÷ 20 <u>4</u> Ca
11. Magnesium (Mg)		Mg <u>0</u>	÷ 12.2 <u>0</u> Mg
12. Total Hardness (CaCO ₃)		<u>200</u>	
13. Total Iron (Fe)		<u>24</u>	
14. Manganese			
15. Phosphate Residuals		<u>19</u>	

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

4	Ca	←	HCO ₃	125
0	Mg	→	SO ₄	0
181	Na	→	Cl	60

Compound	Equlv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04		<u>4</u>		<u>324</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17				
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00		<u>121</u>		<u>10,164</u>
Na ₂ SO ₄	71.03				
NaCl	58.46		<u>60</u>		<u>3,508</u>

Saturation Values	Distilled Water 20°C
CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2,090 Mg/l
MgCO ₃	103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5088
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 01-19-98

Source 16-65 Date Sampled 01-17-98 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.8</u>		
2. H ₂ S (Qualitative)	<u>0.5</u>		
3. Specific Gravity	<u>1.019</u>		
4. Dissolved Solids		<u>22,873</u>	
5. Alkalinity (CaCO ₃)		CO ₃ <u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ <u>8,200</u>	÷ 61 <u>134</u> HCO ₃
7. Hydroxyl (OH)		OH <u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>7,000</u>	÷ 35.5 <u>199</u> Cl
9. Sulfates (SO ₄)		SO ₄ <u>0</u>	÷ 48 <u>0</u> SO ₄
10. Calcium (Ca)		Ca <u>48</u>	÷ 20 <u>2</u> Ca
11. Magnesium (Mg)		Mg <u>10</u>	÷ 12.2 <u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>160</u>	
13. Total Iron (Fe)		<u>24</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

	Compound	Eqvly. Wt.	X	Meg/l	=	Mg/l
<div> <div>2</div> <div>1</div> <div>236</div> </div> <div> <div>Ca</div> <div>Mg</div> <div>Na</div> </div>						
	HCO ₃	40				
	SO ₄	0				
	Cl	199				
	Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
	CaSO ₄	68.07				
	CaCl ₂	55.50				
	Mg(HCO ₃) ₂	73.17	<u>1</u>			<u>73</u>
	MgSO ₄	60.19				
	MgCl ₂	47.62				
	NaHCO ₃	84.00		<u>131</u>		<u>11,004</u>
	Na ₂ SO ₄	71.03				
	NaCl	58.46		<u>199</u>		<u>11,634</u>

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 01-19-98
Source 34-12 Date Sampled 01-17-98 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.4</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.013</u>		
4. Dissolved Solids		<u>13,541</u>	
5. Alkalinity (CaCO ₃)		<u>0</u>	<u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		<u>7,800</u>	<u>128</u> HCO ₃
7. Hydroxyl (OH)		<u>0</u>	<u>0</u> OH
8. Chlorides (Cl)		<u>1,700</u>	<u>48</u> Cl
9. Sulfates (SO ₄)		<u>0</u>	<u>0</u> SO ₄
10. Calcium (Ca)		<u>40</u>	<u>2</u> Ca
11. Magnesium (Mg)		<u>14</u>	<u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>160</u>	
13. Total Iron (Fe)		<u>1.0</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

	Compound	Equly. Wt.	X	Meg/l	=	Mg/l
2	Ca(HCO ₃) ₂	81.04	2	162		
1	CaSO ₄	68.07				
	CaCl ₂	55.50				
173	Mg(HCO ₃) ₂	73.17	1	73		
	MgSO ₄	60.19				
	MgCl ₂	47.62				
	NaHCO ₃	84.00	125	10,500		
	Na ₂ SO ₄	71.03				
	NaCl	58.46	48	2,806		

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P.

Address _____

Date 12-31-97

Source 35-5

Date Sampled 12-30-97

Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	8.1		
2. H ₂ S (Qualitative)	0		
3. Specific Gravity	1.015		
4. Dissolved Solids		17,337	
5. Alkalinity (CaCO ₃)		0	÷ 30 0 CO ₃
6. Bicarbonate (HCO ₃)		7,900	÷ 61 130 HCO ₃
7. Hydroxyl (OH)		0	÷ 17 0 OH
8. Chlorides (Cl)		3,900	÷ 35.5 110 Cl
9. Sulfates (SO ₄)		0	÷ 48 0 SO ₄
10. Calcium (Ca)		24	÷ 20 1 Ca
11. Magnesium (Mg)		12	÷ 12.2 1 Mg
12. Total Hardness (CaCO ₃)		110	
13. Total Iron (Fe)			
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

	Compound	Equly. Wt.	X	Meg/l	=	Mg/l
1	Ca					
1	Mg					
238	Na					
	HCO ₃	130				
	SO ₄	0				
	Cl	110				
	Ca(HCO ₃) ₂	81.04	1		81	
	CaSO ₄	68.07				
	CaCl ₂	55.50				
	Mg(HCO ₃) ₂	73.17	1		73	
	MgSO ₄	60.19				
	MgCl ₂	47.62				
	NaHCO ₃	84.00	128		10,752	
	Na ₂ SO ₄	71.03				
	NaCl	58.46	110		6,431	

Saturation Values

Distilled Water 20°C

CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2,090 Mg/l
MgCO ₃	103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97

Source 26-2 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>8.1</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.013</u>		
4. Dissolved Solids		<u>17,015</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>8,500</u>	÷ 61 <u>140</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>3,200</u>	÷ 35.5 <u>90</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>0</u>	÷ 48 <u>0</u> SO ₄
10. Calcium (Ca)	Ca	<u>32</u>	+ 20 <u>2</u> Ca
11. Magnesium (Mg)	Mg	<u>0</u>	÷ 12.2 <u>0</u> Mg
12. Total Hardness (CaCO ₃)		<u>80</u>	
13. Total Iron (Fe)		<u>1.3</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	140
0	Mg	→	SO ₄	0
228	Na	→	Cl	90

Compound	Eqvly. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17				
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>138</u>			<u>11,592</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>90</u>			<u>5,261</u>

Saturation Values

Distilled Water 20°C

CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2,090 Mg/l
MgCO ₃	103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97

Source 35-6 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	8.2		
2. H ₂ S (Qualitative)	0		
3. Specific Gravity	1.012		
4. Dissolved Solids		14.465	
5. Alkalinity (CaCO ₃)		CO ₃ 0	÷ 30 0 CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ 8.500	+ 61 139 HCO ₃
7. Hydroxyl (OH)		OH 0	+ 17 0 OH
8. Chlorides (Cl)		Cl 1,700	+ 35.5 48 Cl
9. Sulfates (SO ₄)		SO ₄ 0	+ 48 0 SO ₄
10. Calcium (Ca)		Ca 40	+ 20 2 Ca
11. Magnesium (Mg)		Mg 12	+ 12.2 1 Mg
12. Total Hardness (CaCO ₃)		150	
13. Total Iron (Fe)		1.0	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	139
1	Mg	→	SO ₄	0
184	Na	→	Cl	48

Compound	Equlv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	2			162
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	1			73
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00		136		11,424
Na ₂ SO ₄	71.03				
NaCl	58.46		48		2,806

Saturation Values

CaCO₃

Distilled Water 20°C

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97

Source 26-4 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>8.1</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.016</u>		
4. Dissolved Solids		<u>17,038</u>	
5. Alkalinity (CaCO ₃)		CO ₃ <u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ <u>8,200</u>	÷ 61 <u>134</u> HCO ₃
7. Hydroxyl (OH)		OH <u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>3,500</u>	÷ 35.5 <u>99</u> Cl
9. Sulfates (SO ₄)		SO ₄ <u>0</u>	÷ 48 <u>0</u> SO ₄
10. Calcium (Ca)		Ca <u>32</u>	÷ 20 <u>2</u> Ca
11. Magnesium (Mg)		Mg <u>2</u>	÷ 12.2 <u>0</u> Mg
12. Total Hardness (CaCO ₃)		<u>90</u>	
13. Total Iron (Fe)		<u>3.3</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	134
0	Mg	→	SO ₄	0
231	Na	→	Cl	99

Compound	Equlv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17				
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>132</u>			<u>11,088</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>99</u>			<u>5,788</u>

Saturation Values

Distilled Water 20°C

CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2,090 Mg/l
MgCO ₃	.103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97

Source 34-7 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>8.2</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.013</u>		
4. Dissolved Solids		<u>14,495</u>	
5. Alkalinity (CaCO ₃)		CO ₃ <u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ <u>8,000</u>	÷ 61 <u>131</u> HCO ₃
7. Hydroxyl (OH)		OH <u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>2,100</u>	÷ 35.5 <u>60</u> Cl
9. Sulfates (SO ₄)		SO ₄ <u>0</u>	÷ 48 <u>0</u> SO ₄
10. Calcium (Ca)		Ca <u>40</u>	÷ 20 <u>2</u> Ca
11. Magnesium (Mg)		Mg <u>7</u>	÷ 12.2 <u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>130</u>	
13. Total Iron (Fe)		<u>1.3</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

	Compound	Eqwly. Wt.	X	Meg/l	=	Mg/l
<div> <div>2</div> <div>1</div> <div>188</div> </div> <div> <div>Ca</div> <div>Mg</div> <div>Na</div> </div> <div> <div>HCO₃</div> <div>SO₄</div> <div>Cl</div> </div> <div> <div>131</div> <div>0</div> <div>60</div> </div>	Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
	CaSO ₄	68.07				
	CaCl ₂	55.50				
	Mg(HCO ₃) ₂	73.17	<u>1</u>			<u>73</u>
	MgSO ₄	60.19				
	MgCl ₂	47.62				
Saturation Values CaCO ₃ CaSO ₄ · 2H ₂ O MgCO ₃	NaHCO ₃	84.00		<u>128</u>		<u>10,752</u>
	Na ₂ SO ₄	71.03				
	NaCl	58.46		<u>60</u>		<u>3,508</u>

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97
Source 14-55 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.8</u>		
2. H ₂ S (Qualitative)	<u>1.0</u>		
3. Specific Gravity	<u>1.008</u>		
4. Dissolved Solids		<u>12,401</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>7,300</u>	+ 61 <u>120</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>1,400</u>	+ 35.5 <u>40</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>0</u>	+ 48 <u>0</u> SO ₄
10. Calcium (Ca)	Ca	<u>40</u>	+ 20 <u>2</u> Ca
11. Magnesium (Mg)	Mg	<u>7</u>	+ 12.2 <u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>130</u>	
13. Total Iron (Fe)		<u>3.6</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	120
1	Mg	→	SO ₄	0
157	Na	→	Cl	40

Compound	Eqvly. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	<u>1</u>			<u>73</u>
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>117</u>			<u>9,828</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>40</u>			<u>2,338</u>

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97
Source 35-14 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	8.2		
2. H ₂ S (Qualitative)	0		
3. Specific Gravity	1.013		
4. Dissolved Solids		15,400	
5. Alkalinity (CaCO ₃)		CO ₃ 0	÷ 30 0 CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ 9,150	÷ 61 150 HCO ₃
7. Hydroxyl (OH)		OH 0	÷ 17 0 OH
8. Chlorides (Cl)		Cl 1,700	÷ 35.5 48 Cl
9. Sulfates (SO ₄)		SO ₄ 0	÷ 48 0 SO ₄
10. Calcium (Ca)		Ca 48	÷ 20 2 Ca
11. Magnesium (Mg)		Mg 0	÷ 12.2 0 Mg
12. Total Hardness (CaCO ₃)		120	
13. Total Iron (Fe)		3.0	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Eqv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	91.04	2	182		
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17				
MgSO ₄	60.19				
MgCl ₂	47.52				
NaHCO ₃	84.00	148	12,432		
Na ₂ SO ₄	71.03				
NaCl	58.46	48	2,806		

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97

Source 10-47 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.9</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.017</u>		
4. Dissolved Solids		<u>20,008</u>	
5. Alkalinity (CaCO ₃)		CO ₃ <u>0</u>	+ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ <u>8,200</u>	+ 61 <u>134</u> HCO ₃
7. Hydroxyl (OH)		OH <u>0</u>	+ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>5,300</u>	+ 35.5 <u>150</u> Cl
9. Sulfates (SO ₄)		SO ₄ <u>0</u>	+ 48 <u>0</u> SO ₄
10. Calcium (Ca)		Ca <u>48</u>	+ 20 <u>2</u> Ca
11. Magnesium (Mg)		Mg <u>7</u>	+ 12.2 <u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>150</u>	
13. Total Iron (Fe)		<u>40</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equlv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	88.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	<u>1</u>			<u>73</u>
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00		<u>131</u>		<u>11,004</u>
Na ₂ SO ₄	71.03				
NaCl	58.46		<u>150</u>		<u>8,769</u>

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84088

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97

Source 35-13 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.9</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.009</u>		
4. Dissolved Solids		<u>12.401</u>	
5. Alkalinity (CaCO ₃)		CO ₃ <u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ <u>7.300</u>	+ 61 <u>120</u> HCO ₃
7. Hydroxyl (OH)		OH <u>0</u>	+ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>1.400</u>	+ 35.5 <u>40</u> Cl
9. Sulfates (SO ₄)		SO ₄ <u>0</u>	+ 48 <u>0</u> SO ₄
10. Calcium (Ca)		Ca <u>40</u>	+ 20 <u>2</u> Ca
11. Magnesium (Mg)		Mg <u>10</u>	+ 12.2 <u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>140</u>	
13. Total Iron (Fe)		<u>2.1</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	120
1	Mg	←	SO ₄	0
157	Na	←	Cl	40

Compound	Eqvly. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	91.04	<u>2</u>			<u>152</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	<u>1</u>			<u>73</u>
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>117</u>			<u>9,828</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>40</u>			<u>2,338</u>

Saturation Values	Distilled Water 20°C
CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2.090 Mg/l
MgCO ₃	.103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066

Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97

Source 9-45 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	8.5		
2. H ₂ S (Qualitative)	0		
3. Specific Gravity	1.020		
4. Dissolved Solids		21,734	
5. Alkalinity (CaCO ₃)	CO ₃	0	+ 30 0 CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	11,590	+ 61 190 HCO ₃
7. Hydroxyl (OH)	OH	0	+ 17 0 OH
8. Chlorides (Cl)	Cl	3,500	+ 35.5 99 Cl
9. Sulfates (SO ₄)	SO ₄	0	+ 48 0 SO ₄
10. Calcium (Ca)	Ca	20	+ 20 1 Ca
11. Magnesium (Mg)	Mg	7	+ 12.2 1 Mg
12. Total Hardness (CaCO ₃)		80	
13. Total Iron (Fe)		5.4	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

	Compound	Equly. Wt.	X	Meg/l	=	Mg/l
1	Ca(HCO ₃) ₂	81.04	1	81		
1	CaSO ₄	68.07				
	CaCl ₂	55.50				
287	Mg(HCO ₃) ₂	73.17	1	73		
	MgSO ₄	60.19				
	MgCl ₂	47.62				
	NaHCO ₃	84.00	188	15,792		
	Na ₂ SO ₄	71.03				
	NaCl	58.46	99	5,788		

Saturation Values	Distilled Water 20°C
CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2,090 Mg/l
MgCO ₃	.103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97

Source 4-44 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>8.1</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.010</u>		
4. Dissolved Solids		<u>13,672</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	+ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>8,200</u>	+ 61 <u>135</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	+ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>1,400</u>	+ 35.5 <u>40</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>0</u>	+ 48 <u>0</u> SO ₄
10. Calcium (Ca)	Ca	<u>32</u>	+ 20 <u>2</u> Ca
11. Magnesium (Mg)	Mg	<u>4</u>	+ 12.2 <u>0</u> Mg
12. Total Hardness (CaCO ₃)		<u>100</u>	
13. Total Iron (Fe)		<u>1.1</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	135
0	Mg	→	SO ₄	0
173	Na	→	Cl	40

Compound	Equly. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17				
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>133</u>			<u>11,172</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>40</u>			<u>2,338</u>

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2.090 Mg/l

MgCO₃

.103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97
Source 2-49 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	8.1		
2. H ₂ S (Qualitative)	15.		
3. Specific Gravity	1.012		
4. Dissolved Solids		13,905	
5. Alkalinity (CaCO ₃)		CO ₃ 0	÷ 30 0 CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ 6,700	÷ 61 110 HCO ₃
7. Hydroxyl (OH)		OH 0	÷ 17 0 OH
8. Chlorides (Cl)		Cl 2,800	÷ 35.5 80 Cl
9. Sulfates (SO ₄)		SO ₄ 0	÷ 48 0 SO ₄
10. Calcium (Ca)		Ca 80	÷ 20 4 Ca
11. Magnesium (Mg)		MG 2	÷ 12.2 0 Mg
12. Total Hardness (CaCO ₃)		210	
13. Total Iron (Fe)		2.0	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Eqv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	4			324
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17				
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	106			8,904
Na ₂ SO ₄	71.03				
NaCl	58.46	80			4,677

4	Ca	←	HCO ₃	110
0	Mg	→	SO ₄	0
186	Na	→	Cl	80

Saturation Values	Distilled Water 20°C
CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2,090 Mg/l
MgCO ₃	103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97
Source 2-48 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.6</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.015</u>		
4. Dissolved Solids		<u>16,043</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	+ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>9,150</u>	+ 61 <u>150</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	+ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>2,100</u>	+ 35.5 <u>59</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>0</u>	+ 48 <u>0</u> SO ₄
10. Calcium (Ca)	Ca	<u>32</u>	+ 20 <u>2</u> Ca
11. Magnesium (Mg)	Mg	<u>5</u>	+ 12.2 <u>0</u> Mg
12. Total Hardness (CaCO ₃)		<u>100</u>	
13. Total Iron (Fe)		<u>1.6</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Eqw. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17				
MgSO ₄	60.19				
MgCl ₂	47.52				
NaHCO ₃	84.00	<u>148</u>			<u>12,432</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>59</u>			<u>3,449</u>

Saturation Values	Distilled Water 20°C
CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2,090 Mg/l
MgCO ₃	103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066

Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P.

Address _____

Date 12-31-97

Source 2-11

Date Sampled 12-30-97

Analysis No. _____

	Analysis	mg/l(ppm)	*Meq/l
1. PH	<u>8.0</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.010</u>		
4. Dissolved Solids		<u>11.572</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>6.700</u>	÷ 61 <u>110</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>1.400</u>	÷ 35.5 <u>40</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>0</u>	÷ 48 <u>0</u> SO ₄
10. Calcium (Ca)	Ca	<u>40</u>	÷ 20 <u>2</u> Ca
11. Magnesium (Mg)	Mg	<u>2</u>	÷ 12.2 <u>0</u> Mg
12. Total Hardness (CaCO ₃)		<u>110</u>	
13. Total Iron (Fe)		<u>4.0</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equlv. Wt.	X	Meq/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17				
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>108</u>			<u>9,072</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>40</u>			<u>2,338</u>

Saturation Values	Distilled Water 20°C
CaCO ₃	13 Mg/l
CaSO ₄ · 2H ₂ O	2,090 Mg/l
MgCO ₃	103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 01-19-98
Source 10-58 Date Sampled 01-17-98 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>8.1</u>		
2. H ₂ S (Qualitative)	<u>0.5</u>		
3. Specific Gravity	<u>1.017</u>		
4. Dissolved Solids		<u>18,119</u>	
5. Alkalinity (CaCO ₃)		CO ₃ <u>0</u>	+ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ <u>9,000</u>	+ 61 <u>147</u> HCO ₃
7. Hydroxyl (OH)		OH <u>0</u>	+ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>3,500</u>	+ 35.5 <u>99</u> Cl
9. Sulfates (SO ₄)		SO ₄ <u>0</u>	+ 48 <u>0</u> SO ₄
10. Calcium (Ca)		Ca <u>40</u>	+ 20 <u>2</u> Ca
11. Magnesium (Mg)		Mg <u>17</u>	+ 12.2 <u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>170</u>	
13. Total Iron (Fe)		<u>3.0</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	147
1	Mg	→	SO ₄	0
243	Na	→	Cl	99

Compound	Eqv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	<u>1</u>			<u>73</u>
MgSO ₄	60.19				
MgCl ₂	47.62	<u>1</u>			
NaHCO ₃	84.00	<u>144</u>			<u>12,096</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>99</u>			<u>5,788</u>

Saturation Values

CaCO₃

CaSO₄ · 2H₂O

MgCO₃

Distilled Water 20°C

13 Mg/l

2,090 Mg/l

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84068

Office (801) 722-5068
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 01-19-98

Source 16-66 Date Sampled 01-17-98 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>6.7</u>		
2. H ₂ S (Qualitative)	<u>1.0</u>		
3. Specific Gravity	<u>1.002</u>		
4. Dissolved Solids		<u>3,170</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>1,000</u>	÷ 61 <u>17</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>1,050</u>	÷ 35.5 <u>30</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>60</u>	÷ 48 <u>1</u> SO ₄
10. Calcium (Ca)	Ca	<u>120</u>	÷ 20 <u>6</u> Ca
11. Magnesium (Mg)	Mg	<u>73</u>	÷ 12.2 <u>6</u> Mg
12. Total Hardness (CaCO ₃)		<u>600</u>	
13. Total Iron (Fe)		<u>34</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

6	Ca	←	HCO ₃	17
6	Mg	→	SO ₄	1
36	Na	→	Cl	30

Compound	Eqvly. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04		<u>6</u>		<u>486</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17		<u>6</u>		<u>439</u>
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00		<u>5</u>		<u>420</u>
Na ₂ SO ₄	71.03		<u>1</u>		<u>71</u>
NaCl	58.46		<u>30</u>		<u>1,754</u>

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

SCALE - CaCO₃ = 93%, FeS = 1%, Paraffin (Oil) = 6%

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97
Source 35-15 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	8.0		
2. H ₂ S (Qualitative)	6.0		
3. Specific Gravity	1.014		
4. Dissolved Solids		17,029	
5. Alkalinity (CaCO ₃)	CO ₃	0	÷ 30 0 CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	9,800	÷ 61 161 HCO ₃
7. Hydroxyl (OH)	OH	0	÷ 17 0 OH
8. Chlorides (Cl)	Cl	2,100	÷ 35.5 60 Cl
9. Sulfates (SO ₄)	SO ₄	0	+ 48 0 SO ₄
10. Calcium (Ca)	Ca	24	+ 20 1 Ca
11. Magnesium (Mg)	Mg	3	÷ 12.2 0 Mg
12. Total Hardness (CaCO ₃)		75	
13. Total Iron (Fe)		20	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

1	Ca	←	HCO ₃	161	Ca(HCO ₃) ₂	81.04	1	81
0	Mg	→	SO ₄	0	CaSO ₄	68.07		
220	Na	→	Cl	60	CaCl ₂	55.50		
					Mg(HCO ₃) ₂	73.17		
					MgSO ₄	60.19		
					MgCl ₂	47.62		
Saturation Values			Distilled Water 20°C		NaHCO ₃	84.00	160	13,440
CaCO ₃			13 Mg/l		Na ₂ SO ₄	71.03		
CaSO ₄ · 2H ₂ O			2,090 Mg/l		NaCl	58.46	60	3,508
MgCO ₃			103 Mg/l					

Saturation Values

CaCO₃

CaSO₄ · 2H₂O

MgCO₃

Distilled Water 20°C

13 Mg/l

2,090 Mg/l

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 01-19-98

Source 35-15 Date Sampled 01-17-98 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.9</u>		
2. H ₂ S (Qualitative)	<u>4.0</u>		
3. Specific Gravity	<u>1.012</u>		
4. Dissolved Solids		<u>14,949</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>8,150</u>	÷ 61 <u>134</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>2,100</u>	÷ 35.5 <u>60</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>130</u>	÷ 48 <u>3</u> SO ₄
10. Calcium (Ca)	Ca	<u>16</u>	+ 20 <u>1</u> Ca
11. Magnesium (Mg)	Mg	<u>24</u>	+ 12.2 <u>2</u> Mg
12. Total Hardness (CaCO ₃)		<u>140</u>	
13. Total Iron (Fe)		<u>85</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

	Compound	Eqv. Wt.	X	Meg/l	=	Mg/l
1	Ca(HCO ₃) ₂	81.04	<u>1</u>			<u>81</u>
2	CaSO ₄	68.07				
	CaCl ₂	55.50				
194	Mg(HCO ₃) ₂	73.17	<u>2</u>			<u>143</u>
	MgSO ₄	60.19				
	MgCl ₂	47.62				
	NaHCO ₃	84.00	<u>131</u>			<u>11,004</u>
	Na ₂ SO ₄	71.03	<u>3</u>			<u>213</u>
	NaCl	58.46	<u>60</u>			<u>3,508</u>

Saturation Values

CaCO₃

CaSO₄ · 2H₂O

MgCO₃

Distilled Water 20°C

13 Mg/l

2,090 Mg/l

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066

Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97
Source 24-57 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meq/l
1. PH	<u>8.3</u>		
2. H ₂ S (Qualitative)	<u>0</u>		
3. Specific Gravity	<u>1.010</u>		
4. Dissolved Solids		<u>16,494</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>7,300</u>	÷ 61 <u>120</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>3,900</u>	÷ 35.5 <u>110</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>0</u>	÷ 48 <u>0</u> SO ₄
10. Calcium (Ca)	Ca	<u>32</u>	÷ 20 <u>2</u> Ca
11. Magnesium (Mg)	Mg	<u>7</u>	÷ 12.2 <u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>110</u>	
13. Total Iron (Fe)		<u>16</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	120
1	Mg	→	SO ₄	0
227	Na	→	Cl	110

Saturation Values

CaCO₃

CaSO₄ · 2H₂O

MgCO₃

Distilled Water 20°C

13 Mg/l

2.090 Mg/l

.103 Mg/l

Compound	Equiv. Wt.	X	Meq/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	<u>1</u>			<u>73</u>
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>117</u>			<u>9,828</u>
Na ₂ SO ₄	71.03				
NaCl	58.46	<u>110</u>			<u>6,431</u>

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-31-97
Source 15-67 Date Sampled 12-30-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	8.3		
2. H ₂ S (Qualitative)	0.5		
3. Specific Gravity	1.016		
4. Dissolved Solids		17,676	
5. Alkalinity (CaCO ₃)		CO ₃ 0	+ 30 0 CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ 8,200	+ 61 134 HCO ₃
7. Hydroxyl (OH)		OH 0	+ 17 0 OH
8. Chlorides (Cl)		Cl 3,900	+ 35.5 110 Cl
9. Sulfates (SO ₄)		SO ₄ 0	+ 48 0 SO ₄
10. Calcium (Ca)		Ca 8	+ 20 0 Ca
11. Magnesium (Mg)		MG 7	+ 12.2 1 Mg
12. Total Hardness (CaCO ₃)		50	
13. Total Iron (Fe)		25	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

0	Ca	HCO ₃	134
1	Mg	SO ₄	0
243	Na	Cl	110

Compound	Eqv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04				
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	1			73
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00		133		11,172
Na ₂ SO ₄	71.03				
NaCl	58.46		110		6,431

Saturation Values

CaCO₃

CaSO₄ · 2H₂O

MgCO₃

Distilled Water 20°C

13 Mg/l

2,090 Mg/l

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 12-15-97
Source 2-50 Date Sampled 12-13-97 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.9</u>		
2. H ₂ S (Qualitative)	<u>175.</u>		
3. Specific Gravity	<u>1.013</u>		
4. Dissolved Solids		<u>13,392</u>	
5. Alkalinity (CaCO ₃)	CO ₃	<u>0</u>	+ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)	HCO ₃	<u>7,300</u>	+ 61 <u>120</u> HCO ₃
7. Hydroxyl (OH)	OH	<u>0</u>	+ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>1,400</u>	+ 35.5 <u>40</u> Cl
9. Sulfates (SO ₄)	SO ₄	<u>660</u>	+ 48 <u>14</u> SO ₄
10. Calcium (Ca)	Ca	<u>64</u>	+ 20 <u>3</u> Ca
11. Magnesium (Mg)	Mg	<u>10</u>	+ 12.2 <u>1</u> Mg
12. Total Hardness (CaCO ₃)		<u>200</u>	
13. Total Iron (Fe)		<u>80</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equly. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>3</u>			<u>243</u>
CaSO ₄	88.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	<u>1</u>			<u>73</u>
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>116</u>			<u>9,744</u>
Na ₂ SO ₄	71.03	<u>14</u>			<u>994</u>
NaCl	58.46	<u>40</u>			<u>2,338</u>

Saturation Values

CaCO₃

CaSO₄ · 2H₂O

MgCO₃

Distilled Water 20°C

13 Mg/l

2,090 Mg/l

103 Mg/l

REMARKS _____

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84068

Office (801) 722-5066
Fax (801) 722-5727

WATER ANALYSIS REPORT

Company TEXACO E. AND P. Address _____ Date 01-19-98

Source 9-60 Date Sampled 01-17-98 Analysis No. _____

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.5</u>		
2. H ₂ S (Qualitative)	<u>0.5</u>		
3. Specific Gravity	<u>1.015</u>		
4. Dissolved Solids		<u>15,304</u>	
5. Alkalinity (CaCO ₃)		CO ₃ <u>0</u>	÷ 30 <u>0</u> CO ₃
6. Bicarbonate (HCO ₃)		HCO ₃ <u>7,700</u>	÷ 61 <u>126</u> HCO ₃
7. Hydroxyl (OH)		OH <u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>2,800</u>	÷ 35.5 <u>80</u> Cl
9. Sulfates (SO ₄)		SO ₄ <u>60</u>	÷ 48 <u>1</u> SO ₄
10. Calcium (Ca)		Ca <u>40</u>	÷ 20 <u>2</u> Ca
11. Magnesium (Mg)		Mg <u>29</u>	÷ 12.2 <u>2</u> Mg
12. Total Hardness (CaCO ₃)		<u>220</u>	
13. Total Iron (Fe)		<u>16</u>	
14. Manganese			
15. Phosphate Residuals			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	126
2	Mg	→	SO ₄	1
203	Na	→	Cl	80

Compound	Eqv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO ₃) ₂	81.04	<u>2</u>			<u>162</u>
CaSO ₄	68.07				
CaCl ₂	55.50				
Mg(HCO ₃) ₂	73.17	<u>2</u>			<u>146</u>
MgSO ₄	60.19				
MgCl ₂	47.62				
NaHCO ₃	84.00	<u>122</u>			<u>10,248</u>
Na ₂ SO ₄	71.03	<u>1</u>			<u>71</u>
NaCl	58.46	<u>80</u>			<u>4,677</u>

Saturation Values

Distilled Water 20°C

CaCO₃

13 Mg/l

CaSO₄ · 2H₂O

2,090 Mg/l

MgCO₃

103 Mg/l

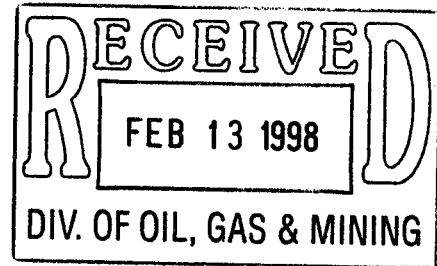
OIL IN WATER = 10,400 PPM

REMARKS _____



**Texaco Exploration
and Production Inc.**
Allen R. Davis - Manager
Farmington Operating Unit

3300 N. Butler, Suite 100
Farmington, NM 87401
505 325 4397



February 12, 1998

Mr. Chris Kierst
STATE OF UTAH
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

RE: **APPLICATION FOR INJECTION WELL**
Texaco Exploration and Production, Inc. Well – SWD No.2
NE/NW Section 14, T18S, R7E, Emery County, Utah

Dear Mr. Kierst:

As discussed with Mr. Robert Schaffitzel on 2/12/97, Texaco has reviewed the available data regarding reservoir interference between SWD No.1 and the referenced well SWD No.2.

A measured bottom hole pressure was recorded in the SWD No.1 in April of 1997. The pressure recorded at 7000 feet was 2618 psig. A measured bottom hole pressure was recorded during initial completion of SWD No.2 in November of 1997. The recorded bottom hole pressure at 7050 feet was 2757 psig.

A portion of the 139-psig-pressure differential could be due to water injection from the SWD No.1. With the current understanding of the Navajo interval the above assumption would be difficult to confirm. Texaco has demonstrated with the submitted hydrological model that interference between the two wells is expected over time. The hydrological model provided continues to be the best practical estimation of interference and impacts of the two wells.

Please feel free to contact our office with any questions or concerns at (505)-325-4³~~2~~97.

Sincerely,

Larry N. Schlotterback
EH&S Coordinator

10

11

1/2 MI. RADIUS

SWD #2
NW 1/4 SEC. 14
T 18 S / R 7 E

10-43

SE 1/4

B.L.M.

B.L.M.

B.L.M.

L&M CURTIS
#15-67
GARY JACK &
SANDRA W. CURTIS

SWD #2

JONES
5-68

TIGER - JACK CURTIS
41-15
P & A 12/78

TEXACO E. & P. INC.

B.L.M.

U. P. & L.
#14-55

NW 1/4

NE 1/4

LYMAN J. &
MARY A. CURTIS

RONALD G. &
SHARON K. NORRIS

LYMAN J. &
MARY A. CURTIS

DONALD R. &
DELORES CURTIS

NE 1/4

LYMAN J. &
MARY A. CURTIS

RONALD G. &
SHARON K. NORRIS

UTAH POWER &
LIGHT CO.

LYMAN J. &
MARY A. CURTIS

B.L.M.

14

15

RECEIVED
FEB 17 1998

DIV. OF OIL, GAS & MINING

Highway
P. & A. CURTIS

10

11

1/2 MI. RADIUS

RECEIVED
FEB 17 1998
DIV. OF OIL, GAS & MINING

SWD #2
NW 1/4 SEC. 14
T18S / R7E

10-43

SE 1/4

B.L.M.

B.L.M.

B.L.M.

L&M CURTIS

#15-67
GARY JACK &
SANDRA W. CURTIS

SWD #2

TEXACO E. & P. INC.

B.L.M.

U. P. & L.
#14-55

TIGER - JACK CURTIS
41-15
P & A 12/76

LYMAN J. &
MARY A. CURTIS

JONES
5-68

DICK JONES
& ANNALISE
JONES

MAN J. &
T. A. CURTIS

DICK & ANNALISE
JONES

SEE DETAIL "D"

LYMAN J. &
MARY A. CURTIS

B.L.M.

NE 1/4

LYMAN J. &
MARY A. CURTIS

RONALD G. &
SHARON K. NORRIS

LYMAN J. &
MARY A. CURTIS

DONALD R. &
DELORES CURTIS

NE 1/4

LYMAN J. &
MARY A. CURTIS

B.L.M.

LYMAN J. &
MARY A. CURTIS

RONALD G. &
SHARON K. NORRIS

UTAH POWER &
LIGHT CO.

15

14

Highway
P. & A. 12/76

Proposed Casing Program

TUBULAR PROGRAM

String Type	Hole Size	Depth	Feet	Casing Diameter	Weight	Grade	Connection Type
Conductor	30"	40'	40'	20"			BT&C
Surface	17 1/2"	290'	290'	13 3/8"	48#	H-40	LT&C
Intermediate	12 1/4"	3100'	3100'	9 5/8"	36#	J-55	LT&C
Production	8 3/4"	7589'	7589'	7"	23#	N-80	LT&C

PRODUCTION PROGRAM

String Type	DV Depth	Stage Lead/Tail	Cement Bottom	Cement Top	No Sacks	Cement Type	Cement Yield	Cement Weight
Surface	526'	Lead	526'	Surface	345	"g"	1.15	15.8
Intermediate	NONE	Lead	3100'	Surface	200	See(1)	3.98	11
Production	6524'	Lead	7460'	4064'	210	RFC 10-0	1.62	14

(1) Class "G" w/12% gel, 2% extender, 0.25% fluid loss additive, 1% salt, and 5 lb/sk gilsonite



SWD #2

11/26/97

API #43-015-30323

CURRENT COMPLETION

LOCATION:

386' FNL & 767' FWL
NE/NW, Sec. 14, T18S, R7E
Emery County, UT

SPUD DATE: 8/3/97

ELEVATION: KB - 6054'
GR - 6041'

FORMATION TOPS:

3184' Tununk
3549' Dakota
3643' Cedar Mtn.
4150' Salt Wash
4356' Morrison
4522' Summerville
5012' Curtis
5216' Entrada
5980' Carmel
6823' Navajo (-769)
7334' Kayenta
7477' Wingate

43 015 30272
-6406 T/RN
Elev GR +5988

-6406
6001
-405

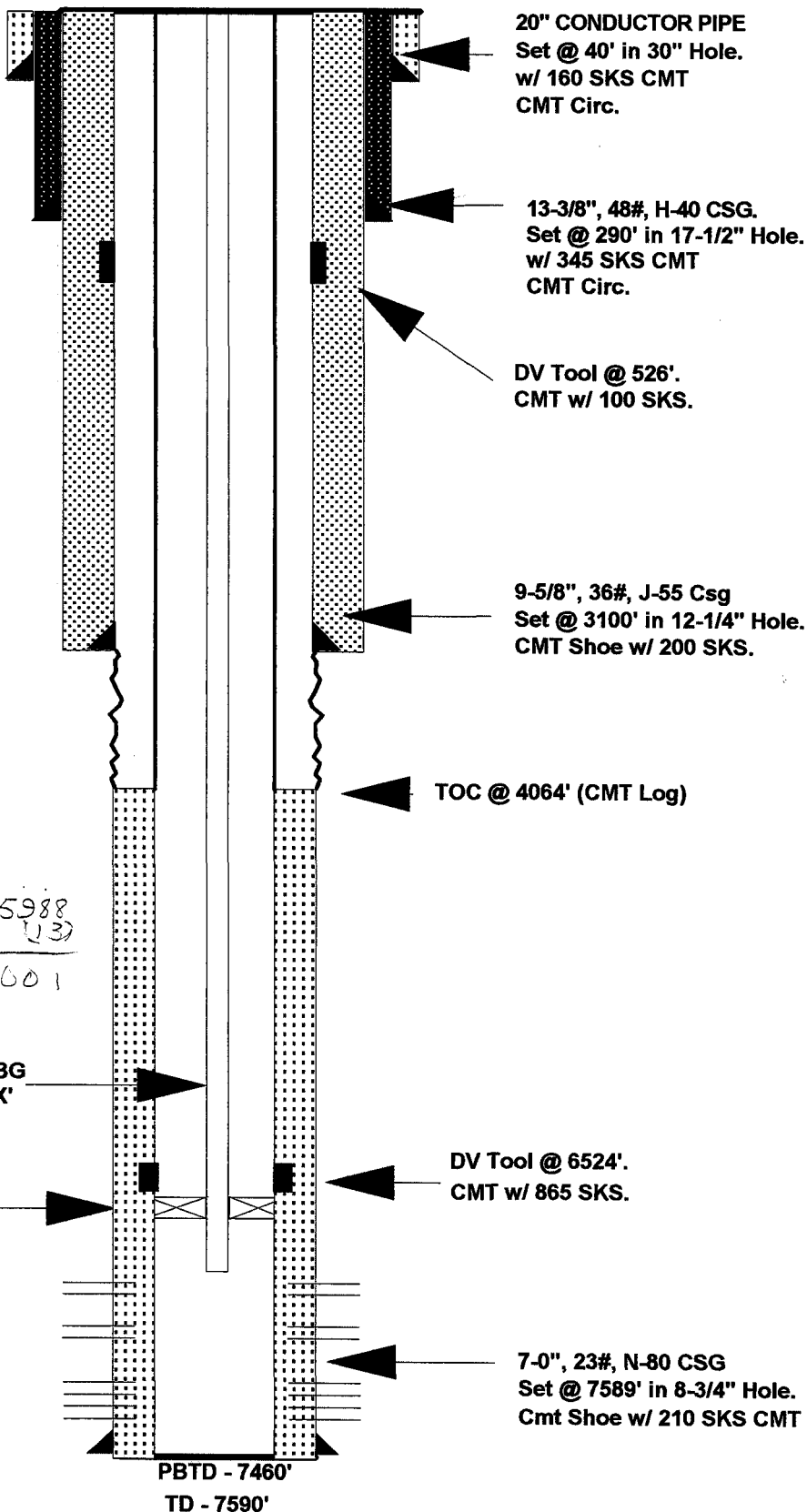
+5988
+123
6001

3.5", 9.3#, IPC TBG
Set @ XXXX'

Packer @7055'

NAVAJO PERFS:

7078' - 7086'
7098' - 7162'
7195' - 7296'
4 JSPF, 0.45" HOLES



**FAX TRANSMITTAL COVER SHEET**DATE: March 12, 1998 ☒ URGENT ☐ ROUTINE NO. OF PAGES: C+4**MESSAGE TO:** Mr. Christopher Kierst

TELEPHONE NO.: _____ FAX MACHINE NO.: _____

DEPT./DIV./SUBS.: DOGMLOCATION: Salt Lake City, Utah ROOM NO.: _____**MESSAGE FROM:** Larry SchlotterbackTELEPHONE NO.: (505) 325-4397 #17 FAX MACHINE NO.: (505) 325-5398DEPT./DIV./SUBS.: Farmington Operating UnitLOCATION: Farmington, NM ROOM NO.: _____**SENDING DEPT. APPROVAL:** _____ **TIME TRANSMITTED:** 8:38 AM☐ RETURN ORIGINAL VIA INTER-OFFICE MAIL☐ RETURN ORIGINAL CALL SENDER TO PICKUP**ADDITIONAL COMMENTS:**

Attached:

Completion report for Texaco's SWD#2 located near Orangeville, Utah.

If you have any questions, please call me...

Larry Schlotterback

PO Pump injection falloff test

Sum Finish TOO H w/ tbg - TIH w/ 2-3/8" 10' pup w/ pressure gauge on side mandrel, 2-3/8" 10' pup w/ pressure gauge on side mandrel, XO, 2-7/8" x 7" Guiberson Uni VI pkr, XO, 2-3/8" down hole shut off valve, XO, 229 jts 2-7/8" tbg - set PKR 7027' - EOT 7051 - SDFN RIG 1200 - Rental- 800 Water -200 Day - 2200 Total 81100

11/25/97

PO Wait on Dowell for step rate test

Sum RU pump truck - pump 5 bbls @ 1/8 BPM - valve on pump truck failed - RD pump truck use rig pump - starting 1:00 P.M. pumped 57 bbls @ 1/5 BPM for five hours - 6:00 p.m. - no pressure on well throughout the job - closed down hole shut off valve - shut well in for 24 hr fall off test Rig-2200 Rental-600 Water-300 Pump -800 Day 3900 Total - 85000

11/26/97

PO Pump step rate test - shut in for three day fall off

Sum Shut in - pressure fall off test Rig-1400 Rental - 600 Water -600 Day-2600 Total-87600

11/27/97

PO Shut in for Holiday

Sum Open Down hole shot off valve - RU Dowell - Pump step rate test as follows-

0.25 BPM 115 psi

0.55 BPM 300 psi

1.0 BPM 660

2.0 BPM 1120

4.2 BPM 1749

6.0 BPM 2280

8.0 BPM 3120

10.0 BPM 3950

11.5 BPM 4880

12.0 BPM 5056

Shut down pumps - 15 min 659 psi - RD Dowell - close down hole shut off valve - Shut in well for three days - SDF Holidays - Rig 1500 Rental - 800 Dowell - 7000 Day - 9300 Total- 89900

11/28/97

PO Shut in for Holiday

Sum Shut in for Holiday

11/29/97

PO Shut in for Holiday

Sum Shut in for Holiday

11/30/97

PO Shut in for Holiday

Sum Shut in for Holiday

12/1/97

PO TOO H w/ 2-7/8 tbg and BHA

Sum Shut in for Holiday

12/2/97

PO Finish TIH w/ injection string
Sum Toooh and lay down 2-7/8" tbg and BHA - lay down pressure bombs - TIH w/ 2.25 'R' Nipple
2.197 No Go ID SS, 6' 2-7/8" sub plastic coated, 2.25 'F' nipple SS, 2-7/8" x 7" Guiberson Uni
VI plastic coated pkr, 2-7/8"x3-1/2" plastic coated XO, 180 jts 3-1/2" J-55 Duoline tbg-
SDFN Rig - 2600 Rental - 500 Tbg and BHA - 60000 Day - 63100 Total - 153000

12/3/97

PO Well Shut in waiting on facilities
Sum Finish tih - set pkr 7055' - 217 jts Duoline 3-1/2" J-55 tbg - Test annulus to 1000 psi for 30
min - filled backside w/ CPF-1 pkr fluid - NDBOP - NUWH - RDMO service unit Rig - 2200
PKR - 6000 Water - 300 Other - 800 Day - 9300 Total 162300

12/4/97

Well shut in waiting permit for injection and facilities

→ MIT conducted with tubing on 12/3/97.

Ask Larry to send the results of the test
(did test hold?). Sundry Notice is OK

**FAX TRANSMITTAL COVER SHEET**DATE: March 12, 1998 ☒ URGENT ☐ ROUTINE NO. OF PAGES: C+4**MESSAGE TO:** Mr. Christopher Kierst

TELEPHONE NO.: _____ FAX MACHINE NO.: _____

DEPT./DIV./SUBS.: DOGMLOCATION: Salt Lake City, Utah ROOM NO.: _____**MESSAGE FROM:** Larry SchlotterbackTELEPHONE NO.: (505) 325-4397 #17 FAX MACHINE NO.: (505) 325-5398DEPT./DIV./SUBS.: Farmington Operating UnitLOCATION: Farmington, NM ROOM NO.: _____**SENDING DEPT. APPROVAL:** _____ **TIME TRANSMITTED:** 8:38 AM☐ RETURN ORIGINAL VIA INTER-OFFICE MAIL☐ RETURN ORIGINAL CALL SENDER TO PICKUP**ADDITIONAL COMMENTS:**

Attached:

Completion report for Texaco's SWD#2 located near Orangeville, Utah.

If you have any questions, please call me..

Larry Schlotterback

11/16/97

PO Shut down for weekend

Sum Wait on Dowell for acid – shut down for weekend

11/17/97

PO Acidize 7195'-7296'

Sum Shut down for weekend

11/18/97

PO Swab for acid recovery – set RBP

Sum RU Dowell – test line to 5141 – pump 5300 gals 7-1/2 % HCL and 800 balls – broke down 2500 psi – max 3000, avg 2700, ISIP 1246, 15 min 380 – avg rate 6 BPM, max 7.6 BPM – RD Dowell – RU swab – swab 150 bbls in 17 runs – IFL surface – FFL 1400' – SDFN Rig – 2000 Rental – 1200 Dowell – 9600 water – 300 Day-13100 Total – 42500

11/19/97

PO Perforate 7078'-7086', 7098'-7162' – Swab

Sum RD swab – release pkr – tooh w/ pkr and tbg – tih w/ cup type RBP – set plug 7182' – test plug to 1000 psi – held OK – tooh w/ tbg – SDFN RIG – 1800 Rental – 2000 Water – 300 Day – 3100 Total 45600

11/20/97

PO Rig up new sand line – finish swabbing – obtain fluid sample

Sum RU Schlumberger – perforate from 7078'-7086' and 7098'-7162' w/ 4" Heds 4 SPF deep penetrating 0.45" holes – perforated intervals in four runs – RD Schlumberger – PU Guiberson Uni VI treating pkr w/ notched collar and 230 jts and tih – set pkr 7055' – test backside to 1000 psi – RU swab – swab 60 bbls in 10 runs – sand line hung in tbg – snapped sand line – IFL surface – FFL 2100' – tooh w/ tbg to get sand line – Notified DOGM for water sample – Gil Hunt asked for copy of our analysis – DOGM rep. would not be present – SDFN RIG – 2000 Rental-2000 perforating – 5200 trucking – 3800 day – 13000 total 58600

11/21/97

PO Acidize perms 7078'-7162' – swab well clean

Sum Repair rig sand line – RU swab – swab 158 bbls – 23 runs – IFL 800 – FFL 1800 – obtain water sample for analysis – RD swab – SDFN Rig 2000 Rental – 1500 Day – 3500 Total – 62100

11/22/97

PO Retrieve RBP – clean out to PBTD

Sum RU Dowell – test line to 6011 – pump 3850 gals 7-1/2 % HCL and 501 balls – broke down 3200 psi – max 4596, avg 4200, ISIP 1100, 15 min 165 – avg rate 9 BPM, max 10 BPM – RD Dowell – RU swab – swab 175 bbls in 26 runs – IFL surface – FFL 1500' – SDFN Rig – 2200 Rental – 1200 Dowell – 9000 water – 300 Day-12700 Total – 74800

11/23/97

PO TIH w/ pressure bombs

Sum Release pkr – tooh LD pkr – TIH w/ retrieving head – circulate clean to RBP – TOOHH w/ RBP – TIH w/ notched collar, SN and tbg – tag fill 7442' – clean out to 7460' – **NEW PBTD** – reverse hole clean – TOOHH w/ 10 jts – SDFN Rig-2200 Rental-1200 Water – 700 Day – 4100 Total 78900

11/24/97

PO Pump injection falloff test

Sum Finish TOO H w/ tbg - TIH w/ 2-3/8" 10' pup w/ pressure gauge on side mandrel, 2-3/8" 10' pup w/ pressure gauge on side mandrel, XO, 2-7/8" x 7" Guiberson Uni VI pkr, XO, 2-3/8" down hole shut off valve, XO, 229 jts 2-7/8" tbg - set PKR 7027' - EOT 7051 - SDFN RIG 1200 - Rental- 800 Water -200 Day - 2200 Total 81100

11/25/97

PO Wait on Dowell for step rate test

Sum RU pump truck - pump 5 bbls @ 1/8 BPM - valve on pump truck failed - RD pump truck use rig pump - starting 1:00 P.M. pumped 57 bbls @ 1/5 BPM for five hours - 6:00 p.m. - no pressure on well throughout the job - closed down hole shut off valve - shut well in for 24 hr fall off test Rig-2200 Rental-600 Water-300 Pump -800 Day 3900 Total - 85000

11/26/97

PO Pump step rate test - shut in for three day fall off

Sum Shut in - pressure fall off test Rig-1400 Rental - 600 Water -600 Day-2600 Total-87600

11/27/97

PO Shut in for Holiday

Sum Open Down hole shot off valve - RU Dowell - Pump step rate test as follows-

0.25 BPM 115 psi

0.55 BPM 300 psi

1.0 BPM 660

2.0 BPM 1120

4.2 BPM 1749

6.0 BPM 2280

8.0 BPM 3120

10.0 BPM 3950

11.5 BPM 4880

12.0 BPM 5056

Shut down pumps - 15 min 659 psi - RD Dowell - close down hole shut off valve - Shut in well for three days - SDF Holidays - Rig 1500 Rental - 800 Dowell - 7000 Day - 9300 Total- 89900

11/28/97

PO Shut in for Holiday

Sum Shut in for Holiday

11/29/97

PO Shut in for Holiday

Sum Shut in for Holiday

11/30/97

PO Shut in for Holiday

Sum Shut in for Holiday

12/1/97

PO TOO H w/ 2-7/8 tbg and BHA

Sum Shut in for Holiday

12/2/97

PO Finish TIH w/ injection string
Sum Tooh and lay down 2-7/8" tbg and BHA - lay down pressure bombs - TIH w/ 2.25 'R' Nipple
2.197 No Go ID SS, 6' 2-7/8" sub plastic coated, 2.25 'F' nipple SS, 2-7/8" x 7" Guiberson Uni
VI plastic coated pkr, 2-7/8"x3-1/2" plastic coated XO, 180 jts 3-1/2" J-55 Duoline tbg-
SDFN Rig - 2600 Rental - 500 Tbg and BHA - 60000 Day - 63100 Total - 153000

12/3/97

PO Well Shut in waiting on facilities

Sum Finish tih - set pkr 7055' - 217 jts Duoline 3-1/2" J-55 tbg - Test annulus to 1000 psi for 30
min - filled backside w/ CPF-1 pkr fluid - NDBOP - NUWH - RDMO service unit Rig - 2200
PKR - 6000 Water - 300 Other - 800 Day - 9300 Total 162300

12/4/97

Well shut in waiting permit for injection and facilities

→ MIT conducted with tubing on 12/3/97.

Well Name: **SWD No.2**
 Area/Property Number: 333/69090076
 API #: 43-015-30323
 State: Utah
 Location: NW/NW Sec.14 T18S, R7E

 Texaco WI: 50
 Appropriation: 47-5524
 Job Number:
 Commencement Date: 11/11/97
 Contractor: Colorado Well Service

 Objective of Workover: Disposal Well testing and completion
 Injection Formation: Navajo
 Current Perforations: None
 Injection before Workover: None
 Foreman: Robert F. Schaffitzel
 Phone: 801-748-5396 Cellular 801-749-1596

11/12/97

PO Drill out to PBTD
 Sum MIRU Colorado Well Service - NUBOP - tally tbg - PU 6-1/8" bit, bs, TIH w/ 160 jts -
 SDFN
 Rig -1400 Trucking - 1000 Water -800 Rental-500 waste disposal - 5700 day - 9200 total -
 9200

11/13/97

PO Run CMT log and perforate lower zone
 Sum Finish tih w/ tbg to 6553' - tag cmt - tested to 1000 psi - held OK - drill out past DV tool - test
 csg to 1000 psi - held OK - tih to 7453' new **PBTD** - test to 1000 psi - held OK - tooth w/ bit
 and tbg - PU scraper - tih w/ 6-1/8" bit, scraper, xo, 244 jts tbg to 7453' - PUH 4 jts - SDFN
 Rig - 2200 Rental - 1000 day-3200 total - 12400

11/14/97

PO Perforate 7195'-7296'
 Sum TIH to 7453' - circulate hole clean - circulate hole with filtered water (25 micron) - tooth w/
 tbg and bha - RU Schlumberger - Run CMT log (Cement Mapping Tool) - Run first pass
 without pressure above DV tool - place 1000 psig on well with rig pump - log well from 7450'
 - 4000' - TOC located 4064' - SDFN Rig - 2300 Rental - 500 Log - 4500 Water - 300
 Day- 7600 total - 20000

11/15/97

PO Wait on Dowell for acid - shut down for weekend
 Sum RU Schlumberger - perforate from 7195'-7296' w/ 4" Hags 4 SPF deep penetrating 0.45" holes
 - perforated interval in six runs - RD Schlumberger - PU Guiberson Uni VI treating pkr w/
 notched collar and 234 jts and tih - set pkr 7180' - test backside to 1000 psi - RU swab - swab
 105 bbls in 16 runs - IFL surface - FFL 2300' - obtain water sample - Notified DOGM for
 water sample - Gil Hunt asked for copy of our analysis - DOGM rep. would not be present -
 SDFN RIG - 2000 Rental-1200 perforating - 6200 day - 9400 total 29400

DIVISION OF OIL, GAS AND MINING
UNDERGROUND INJECTION CONTROL PROGRAM

**PERMIT
STATEMENT OF BASIS**

Applicant: Texaco Exp. & Prod., Inc.

Well: SWD #2

Location: T18S, R7E, S24, Emery Co., UT

API: 4301530323

Ownership Issues:

The well is located on lands purchased by the well operator. Affidavits of notification have been provided with the injection application.

Well Integrity:

20" conductor pipe set at 40'. 17-1/2" hole drilled to 290' for 13-3/8", 48#, H-40 casing set at 290' w/ 345 sacks of cement circulated. 12-1/4" hole drilled to 3,100' for 9-5/8", 36#, J-55 casing set at 3,100'. Shoe cemented w/ 200 sacks. 8-3/4" hole drilled to 7,590' for 7.0", 23#, N-80 casing set at 7,589'; shoe cemented w/ 210 sacks of cement. A cement mapping log was run. The top of cement was located at 4,064'. This should be adequate to prevent any upward migration of fluid between the 7" casing and the borehole wall. The 7.0" casing was perforated in the Triassic/Jurassic-age Navajo Sandstone from 7,078' to 7,296'. Tubing (3-1/2", 9.3 # IPC) was run into the well and a packer was set at 7,055'. A casing-tubing annular pressure test will be required prior to commencement of injection.

Ground Water Protection:

A small, high-quality ground water resource may be encountered in the alluvial sediments (slope wash) marginal to the Cottonwood Creek drainage. This water course is used by local communities. Surface and intermediate casing will adequately protect this resource. Other subsurface water is unlikely between the surface alluvium and the Cretaceous-age Ferron Sandstone Member of the Mancos Shale. The Ferron Sandstone Member (including the coal measures) provides the field produced (and injected) water. This is obtained from approximately 3,000' of depth and, in nearby production wells, has shown an average total dissolved solids (TDS) level of nearly 14,000 mg/l.

The Navajo Sandstone formation water at the subject well was tested and shown

to be in excess of 20,000 mg/l TDS from the 7,078'-7,162' upper perforated interval. The 7,195'-7,296' Navajo Sandstone lower perforated interval provides water of 13,100 mg/l. This value was determined from swabbed samples taken November 20, 1997 and supported by electric (resistivity and porosity) log analysis. The Navajo Sandstone is a known fresh water aquifer at many locations in the state. In the San Rafael Swell area, the quality of Navajo Sandstone ground water is generally higher nearer the outcrop and recharge areas and poorer with increased depth and distance from recharge [Utah State Department of Natural Resources (DNR) Technical Publication # 78]. This premise has been verified with samples taken from the subject well and other wells several miles further along the flow path to the north. The planned injection of Ferron Sandstone Member produced formation water into the Navajo Sandstone at this location will result in the dilution of the more saline Navajo Sandstone formation water.

The proposed operation is expected to have little effect on the overall hydrology of the aquifer because of its great extent compared to the volume of fluid that will likely be injected. According to DNR Technical Publication #78, the Navajo Sandstone contains approximately 94,000,000 acre-feet of water in transient storage. Injection at a rate of 15,000 barrels per day for 10 years would result in 6,506 acre-feet being injected. This equates to about 0.007% of the water already in storage in the Navajo Sandstone. The Texaco measured bottom hole pressure in the SWD #1 (2,618 psig @ 7,000' in April of 1997) had a 139 psig differential as compared to the SWD #2 (2,757 psig @ 7,050 feet in November of 1997). Some of the increased pressure at the SWD #2 location could be attributable to injection in the SWD #1. It is expected that reservoir interference between the wells will occur over time. SWD #1 has been injecting for over a year and no injection has taken place in SWD #2.

It is our conclusion after reviewing applicable information including the application submitted by Texaco, that injection into the Navajo Sandstone at this location would result in some dilution of the saline water present in the aquifer and a pressure increase near the well which would dissipate after injection ceases. No long term negative impacts are anticipated as a result of injection of produced water into the subject well.

Oil/Gas & Other Mineral Resources Protection:

The Ferron coal/gas zone is protected by tubing, two strings of casing and cement. No other known potentially producible zones were encountered by the well. The injection zone is isolated some 4,000' below the productive interval.

A review of the well records of the Division of Oil, Gas and Mining for the half mile area of review indicated the nearby presence of a deeper well (~ a quarter mile

southwest; Tiger Oil Company Jack Curtis #41-15; API # 4301530059; 11,500 feet total depth) drilled and plugged in 1978. According to the reports on file the 9 5/8" casing was cemented with 550 sacks of Class "G" cement (top of cement unknown), was cut at 5000 feet of depth and 5,289 feet of 9 5/8" casing was pulled. A plug was set at the top of the casing sufficient to isolate the top of the Navajo Sandstone.

Bonding:

Texaco has an \$80,000 surety bond in place which provides coverage for this well.

Actions Taken and Further Approvals Needed:

Notice of this application was published in the Salt Lake Tribune, Deseret News and Emery County Progress. In addition, copies of the notice was provided to the EPA, Emery County Public Lands, and Texaco. The notice stated the proposed interval for injection into the Navajo Sandstone was from 7,078' to 7,296'. Any future injection into a formation other than the Navajo Sandstone will require administrative approval after appropriate sampling and testing.

A properly designed and constructed injection well, combined with periodic mechanical integrity tests, poses no threat to fresh or useable groundwater supplies. The Division staff recommends approval of this application contingent upon no additional or unforeseen information being presented at the hearing which changes our analysis.

Note: Applicable technical publications concerning water resources in the general vicinity of this project have been reviewed and taken into consideration during the permit review process.

Reviewer(s): Christopher Kierst

Date: 2/5/98

Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397

SWD #2

Requirements R649 - 5 - 2 - 2.2

Copies of electrical or radioactive logs, including gamma ray logs,
for the proposed well run prior to the installation of casing and indicating
resistivity, spontaneous potential, caliper, and porosity.

Submitted under separate cover from Dowell / Schlumberger



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

March 16, 1998

Texaco Exploration & Production, Inc.
3300 North Butler Avenue, Suite 100
Farmington, New Mexico 87401

Re: SWD #2 Well, Section 14, Township 18 South, Range 7 East, Emery County, Utah

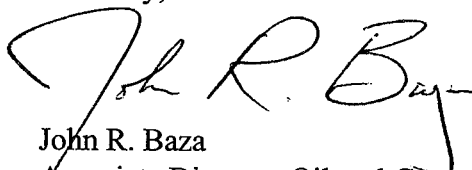
Gentlemen:

Pursuant to Utah Admin. Code R649-5-3-3, the Division of Oil, Gas and Mining (the "Division") issues its administrative approval for conversion of the referenced well to a Class II injection well. Accordingly, the following stipulations shall apply for full compliance with this approval:

1. Compliance with all applicable requirements for the operation, maintenance and reporting for Underground Injection Control ("UIC") Class II injection wells pursuant to Utah Admin. Code R649-1 et seq.
2. Conformance with all conditions and requirements of the complete application submitted by Texaco Exploration and Production, Inc.

If you have any questions regarding this approval or the necessary requirements, please contact Christopher Kierst at this office.

Sincerely,



John R. Baza
Associate Director, Oil and Gas

lwp

cc: Dan Jackson, EPA
Bureau of Land Management, Price
Emery County Commission



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

UNDERGROUND INJECTION CONTROL PERMIT

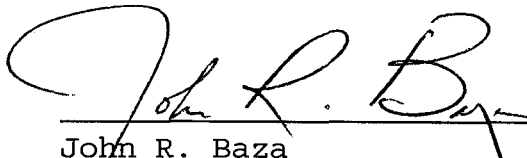
Cause No. UIC-205

Operator: Texaco Exploration & Production, Inc.
Wells: SWD #2
Location: Section 14, Township 18 South, Range 7 East,
County: Emery
API No: 43-015-30323
Well Type: Disposal

Stipulations of Permit Approval

1. Approval for conversion to Injection Well issued on March 16, 1998.
2. Maximum Allowable Injection Pressure: 1750 psig
3. Maximum Allowable Injection Rate: (restricted by pressure limitation)
4. Injection Interval: 7078 feet to 7296 feet (Navajo Sandstone)

Approved by:


John R. Baza
Associate Director, Oil and Gas

3/16/98
Date

**Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397**

SWD #2

Requirements R649 - 5 - 2 - 2.11

A review of the mechanical condition of each well within a 1/2 mile radius of the proposed injection well to assure that no conduit exists that could enable fluids to migrate up or down the wellbore and enter improper intervals.

There are no other wells located within the 1/2 mile radius of exposure.

**Texaco Exploration and Production Inc.
3300 North Butler, Suite 100
Farmington, New Mexico 87401
(505) 325-4397**

SWD #2

Requirements R649 - 5 - 2 - 2.12

An affidavit certifying that a copy of the application has been provided to all operators, owners, and surface owners within a one-half mile radius of the proposed injection well.

Affidavit is Enclosed

**FAX TRANSMITTAL COVER SHEET**DATE: March 19, 1998 ☒ URGENT ☐ ROUTINE NO. OF PAGES: C+1**MESSAGE TO:** Mr. Christopher Kierst

TELEPHONE NO.: _____ FAX MACHINE NO.: _____

DEPT./DIV./SUBS.: State of Utah DOGMLOCATION: Salt Lake City, Utah ROOM NO.: _____**MESSAGE FROM:** Larry SchlotterbackTELEPHONE NO.: (505) 325-4397 #17 FAX MACHINE NO.: (505) 325-5398DEPT./DIV./SUBS.: Farmington Operating UnitLOCATION: Farmington, NM ROOM NO.: _____**SENDING DEPT. APPROVAL:** _____ **TIME TRANSMITTED:** 8:43 AM☐ RETURN ORIGINAL VIA INTER-OFFICE MAIL☐ RETURN ORIGINAL CALL SENDER TO PICKUP**ADDITIONAL COMMENTS:**

Attached:

Sundry notice for Texaco's SWD#2 located in Emery County, Utah. Notice identifies that a mechanical integrity test was conducted and passed on this well, 12/3/97.

If you have any questions, please call me...

Larry Schlotterback

FORM 9

**STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING**

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER WATER DISPOSAL		5. Lease Designation and Serial Number: FEE
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.		6. If Indian, Allottee or Tribe Name:
3. Address and Telephone Number: 3300 N. Butler Ave., Suite 100 Farmington NM 87401 325-4397		7. Unit Agreement Name:
Location of Well Footages: 388' NORTH 76' WEST Q. Sec. T. R. M. NE, NW, 14, T18S, R7E		8. Well Name and Number: SWD #2
		9. API Well Number: 4301530323
		10. Field and Pool, or Wildcat: WILDCAT
		County: EMERY State: UT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
<input type="checkbox"/> Abandonment	<input type="checkbox"/> New Construction	<input type="checkbox"/> Abandonment	<input type="checkbox"/> New Construction
<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Pull or Alter Casing	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Pull or Alter Casing
<input type="checkbox"/> Change of Plans	<input type="checkbox"/> Recompletion	<input type="checkbox"/> Change of Plans	<input type="checkbox"/> Shoot or Acidize
<input type="checkbox"/> Conversion to Injection	<input type="checkbox"/> Shoot or Acidize	<input type="checkbox"/> Conversion to Injection	<input type="checkbox"/> Vent or Flare
<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Vent or Flare	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Multiple Completion	<input type="checkbox"/> Water Shut-Off	<input checked="" type="checkbox"/> OTHER MECH. INTEGRITY TEST	
<input type="checkbox"/> OTHER		Date of work completion: 12/3/97	
Approximate date work will start: _____		Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form. * Must be accompanied by a cement verification report.	

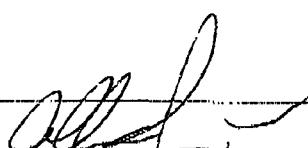
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E&P INC. HAS COMPLETED THE FOLLOWING ON THE SUBJECT WELL:

12/2/97 - MR. ROBERT SCHAFFITZEL NOTIFIED MR. GIL HUNT OF PENDING MECHANICAL INTEGRITY TEST. MR. HUNT APPROVED THE ACTION TO PROCEED.

12/3/97 - TIH - SET PACKER TO 7055' - 217 JOINTS DUOLINE 3 1/2" J-55 TUBING - TEST ANNULUS TO 1000 PSI FOR 30 MINUTES - CASING OK, NO LEAKAGE - FILLED BACKSIDE W/CPF-1 PACKER FLUID - NDBOP - NUWH - RDMO SERVICE UNIT RIG

12/4/97 - WELL SHUT IN WAITING ON PERMIT APPROVAL FOR INJECTION

13. Name and Signature Allen Davis  TITLE Operating Unit Manager DATE 3/19/98

(This space for State use only)

**STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING**

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well ☐ OIL WELL ☐ GAS WELL ☒ OTHER WATER DISPOSAL

2. Name of Operator
TEXACO EXPLORATION & PRODUCTION, INC.

3. Address and Telephone Number:
3300 N. Butler Ave., Suite 100 Farmington NM 87401 325-4397

5. Lease Designation and Serial Number:
FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Well Name and Number:
SWD #2

9. API Well Number:
4301530323

10. Field and Pool, or Wildcat:
WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST

QQ, Sec, T., R., M: NE, NW, 14, T18S, R7E

County: EMERY

State: UT

11. **CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

NOTICE OF INTENT
(Submit in Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER | |

Approximate date work will start _____

SUBSEQUENT REPORT
(Submit Original Form Only)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> OTHER | MECH. INTEGRITY TEST |

Date of work completion 12/3/97

Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E&P INC. HAS COMPLETED THE FOLLOWING ON THE SUBJECT WELL:

12/2/97 - MR. ROBERT SCHAFFITZEL NOTIFIED MR. GIL HUNT OF PENDING MECHANICAL INTEGRITY TEST. MR. HUNT APPROVED THE ACTION TO PROCEED.

12/3/97 - TIH - SET PACKER TO 7055' - 217 JOINTS DUOLINE 3 1/2" J-55 TUBING - TEST ANNULUS TO 1000 PSI FOR 30 MINUTES - CASING OK, NO LEAKAGE - FILLED BACKSIDE W/CPF-1 PACKER FLUID - NDBOP - NUWH - RDMO SERVICE UNIT RIG

12/4/97 - WELL SHUT IN WAITING ON PERMIT APPROVAL FOR INJECTION

13.

Name and Signature

Allen Davis

TITLE Operating Unit Manager DATE

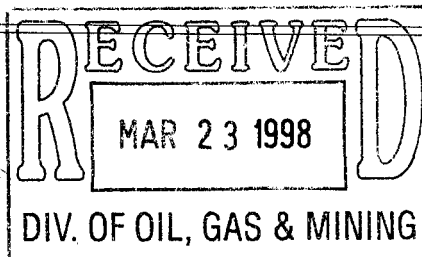
3/19/98

(This space for State use only)

**Accepted by the State
of Utah Division of
Oil, Gas and Mining**

Date: _____

By: _____





State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

UNDERGROUND INJECTION CONTROL PERMIT

Cause No. UIC-205

Operator: Texaco Exploration & Production, Inc.
Wells: SWD #2
Location: Section 14, Township 18 South, Range 7 East,
County: Emery
API No.: 43-015-30323
Well Type: Disposal

Stipulations of Permit Approval

1. Approval for conversion to Injection Well issued on March 10, 1998
2. Maximum Allowable Injection Pressure: 1750 psig
3. Maximum Allowable Injection Rate: (restricted by pressure limitation)
4. Injection Interval: 7078 feet to 7296 feet (Navajo Sandstone)

Approved by:


John R. Baza
Associate Director, Oil and Gas

3/25/98
Date



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

April 2, 1998

Texaco Exploration & Production, Inc.
3300 North Butler Avenue, Suite 100
Farmington, New Mexico 87401

Re: SWD #2 Well, Section 14, Township 18 South, Range 7 East, Emery County, Utah

Gentlemen:

The Division by mistake issued two UIC Permits, UIC-205, for the referenced well, one dated March 16, 1998 and one dated March 25, 1998. Please be advised that the March 16, 1998 permit is the correct and valid one. Please disregard and destroy the March 23 permit.

Thank you and sorry for any inconvenience this matter has caused.

Sincerely,

A handwritten signature in cursive script, reading 'Gil Hunt'.

Gil Hunt
Technical Services Manager

lwp

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER WATER DISPOSAL	5. Lease Designation and Serial Number: FEE
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.	6. If Indian, Allottee or Tribe Name:
3. Address and Telephone Number: 3300 N. Butler Ave., Suite 100 Farmington NM 87401 325-4397	7. Unit Agreement Name:
Location of Well Footages: 386' NORTH 767' WEST Q/Q, Sec., T., R., M.: NE , NW , 14 , T18S , R7E	8. Well Name and Number: FEE SWD #2
9. API Well Number: 4301530323	10. Field and Pool, or Wildcat: WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST

County: EMERY

Q/Q, Sec., T., R., M.: NE , NW , 14 , T18S , R7E

State: UT

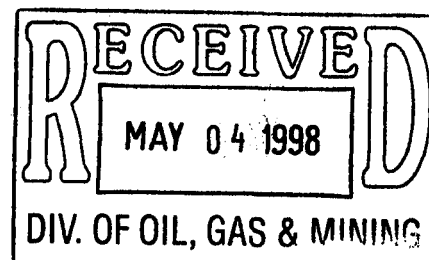
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)	SUBSEQUENT REPORT (Submit Original Form Only)
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Abandonment <input type="checkbox"/> Casing Repair <input type="checkbox"/> Change of Plans <input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Multiple Completion <input checked="" type="checkbox"/> OTHER ADD PERFS </div> <div style="width: 48%;"> <input type="checkbox"/> New Construction <input type="checkbox"/> Pull or Alter Casing <input type="checkbox"/> Recompletion <input type="checkbox"/> Shoot or Acidize <input type="checkbox"/> Vent or Flare <input type="checkbox"/> Water Shut-Off </div> </div>	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Abandonment <input type="checkbox"/> Casing Repair <input type="checkbox"/> Change of Plans <input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Fracture Treat <input type="checkbox"/> OTHER </div> <div style="width: 48%;"> <input type="checkbox"/> New Construction <input type="checkbox"/> Pull or Alter Casing <input type="checkbox"/> Shoot or Acidize <input type="checkbox"/> Vent or Flare <input type="checkbox"/> Water Shut-Off </div> </div>
Approximate date work will start _____	Date of work completion _____ Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form. * Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E. & P. INC. PROPOSES THE FOLLOWING ON THE SUBJECT WELL:

TEXACO PROPOSES TO ADD PERFORATIONS IN THE NAVAJO FM. THE ATTACHED PROCEDURE WILL BE UTILIZED. PLEASE REFER TO THE ATTACHED WELLBORE DIAGRAM.



13. Name and Signature Allen Davis *Allen Davis* TITLE Operating Unit Manager DATE 4/30/98

(This space for use by the State of Utah)
**APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING**

DATE: ~~5-7-98~~ 5-7-98

BY: *[Signature]*

Completion Procedure

SWD No.2

4/30/98

Location: NW/NW, Sec. 14 T18S, R7E

Emery County, Utah

Elevation: 6041' GL, K.B.: 6054'

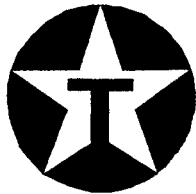
1. MIRU service unit. NUBOP.
2. Release pkr @ 7055' and TOO H w/ 3-1/2" IPC tbg.
3. RU Schlumberger. TIH w/ 7" RBP on wireline. Set RBP @ 7034'. Test plug to 1000 psi and hold for 30 min. Dump 1 sx sand on plug w/ wireline dump.
4. Perforate the following intervals w/ 4" HEGS 4 SPF Deep penetrating 0.45" holes

<u>Interval</u>	<u>Length</u>	<u>Holes</u>
6878'-7004'	126'	504
5. RD Schlumberger. PU and TIH w/ notched collar, Guiberson Uni VI 2-7/8 x 7" PKR, and 2-7/8" workstring. Land EOT @ 6868'
6. RU Dowell. (All acid pumped will be 7.5% HCL w/ inhibitor, iron reducer, surfactant and non emulsifier) Pump 250 gals acid. Begin dropping balls at roughly 7 balls per bbl of acid. 400 total balls. Continue pumping acid at a rate of 12 BPM. Pump total volume acid - 3000 gals.
7. Displace acid with produced water. Ball off interval. Surge balls off perms and allow to fall.
8. RU swab. Swab 250 bbls of fluid. RD swab
9. Release pkr. Tooh w/ pkr and tbg.
10. TIH w/ retrieving head and tbg. Retrieve RBP. TOO H.
11. TIH w/ notched collar, 1 jt, SN and tbg. Clean out to PBTD. TOO H and lay down 2-7/8" tbg.
12. Account for all balls if possible. If missing significant balls. TIH w/ ring gauge and knock of balls. Circulate balls to surface.
13. PU 2-7/8" x 7" coated UNI VI PKR and 3-1/2" IPC tbg. TIH w/ PKR and TBG. Set PKR at 6843'. Fill annulus with Unichem CPF-1 packer fluid. Test annulus to 1000 psi for 30 min. If test holds, release pressure.
14. RDMO service unit

Capacities:

Burst:

2-7/8", 6.5#, J-55 tubing	0.2431 gals/ft (0.00579 Bbls/ft)	7,260 psi (80%: 5,808 psi)
7", 26#, K-55 casing	1.6070 gals/ft (0.0382 Bbls/ft)	4,980 psi (80%: 3,984 psi)
2-7/8" x 7", 26# annulus	1.2698 gals/ft (0.0302 Bbls/ft)	
3-1/2" x 7", 26# annulus	1.1072 gals/ft (0.0264 Bbls/ft)	



SWD #2

API #43-015-30323

CURRENT COMPLETION

LOCATION:

386' FNL & 767' FWL
NE/NW, Sec. 14, T18S, R7E
Emery County, UT

SPUD DATE: 8/3/97

ELEVATION: KB - 6054'
GR - 6041'

FORMATION TOPS:

3184' Tununk
3549' Dakota
3643' Cedar Mtn.
4150' Salt Wash
4356' Morrison
4522' Summerville
5012' Curtis
5216' Entrada
5980' Carmel
6823' Navajo
7334' Kayenta
7477' Wingate

PROPOSED ADDITIONAL NAVAJO PERFS

6878' - 7004'
w/ 4" HEGS, 4 spf, 0.45" holes

3.5", 9.3#, IPC TBG
Set @ XXXX'

Packer @7055'

NAVAJO PERFS:

7078' - 7086'
7098' - 7162'
7195' - 7296'
4 JSPF, 0.45" HOLES

20" CONDUCTOR PIPE
Set @ 40' in 30" Hole.
w/ 160 SKS CMT
CMT Circ.

13-3/8", 48#, H-40 CSG.
Set @ 290' in 17-1/2" Hole.
w/ 345 SKS CMT
CMT Circ.

DV Tool @ 526'.
CMT w/ 100 SKS.

9-5/8", 36#, J-55 Csg
Set @ 3100' in 12-1/4" Hole.
CMT Shoe w/ 200 SKS.

TOC @ 4064' (CMT Log)

DV Tool @ 6524'.
CMT w/ 865 SKS.

7-0", 23#, N-80 CSG
Set @ 7589' in 8-3/4" Hole.
Cmt Shoe w/ 210 SKS
CMT

PBTD - 7460'
TD - 7590'

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well ☐ OIL WELL ☐ GAS WELL ☒ OTHER WATER DISPOSAL

2. Name of Operator
TEXACO EXPLORATION & PRODUCTION, INC.

3. Address and Telephone Number:
3300 N. Butler Ave., Suite 100 Farmington NM 87401 325-4397

5. Lease Designation and Serial Number:
FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Well Name and Number:
FEE SWD #2

9. API Well Number:
4301530323

10. Field and Pool, or Wildcat:
WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST

QQ, Sec., T., R., M.: NE, NW, 14, T18S, R7E

County: EMERY

State: UT

11. **CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

NOTICE OF INTENT

(Submit in Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER | |

Approximate date work will start

SUBSEQUENT REPORT

(Submit Original Form Only)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> OTHER | PERF & ACIDIZE |

Date of work completion

Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

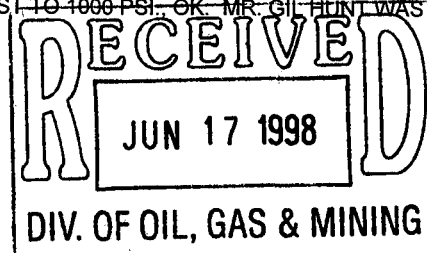
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E. & P. INC. HAS COMPLETED THE FOLLOWING ON THE SUBJECT WELL:

5/27/98 - RIG UP SERVICE UNIT. ND WELLHEAD, NU BOP. PULL TUBING. RIH W/ RBP, SET AT 7034'. DUMP 1 SX SAND ON RBP. PERFORATE W/ 4 SPF, 0.45" HOLES FROM 6878' TO 7004'. RIH W/ PACKER, SET AT 6840'. ACIDIZE PERFS WITH 3000 GAL. 7.5% HCL AND ADDITIVES. PULL PACKER AND RBP. RIH W/ PRODUCTION PACKER, SET AT 6843'. TEST TO 1000 PSI. OK. MR. GIL HUNT WAS NOTIFIED OF M.I.T.

6/5/98 - ND BOP, NU WELLHEAD. PLACE WELL ON INJECTION. (wba)

1st Inj. 5-13-98 see WLF F3



13.

Name and Signature

Allen Davis

TITLE Operating Unit Manager DATE

6/15/98

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well ☐ OIL WELL ☐ GAS WELL ☒ OTHER WATER DISPOSAL

2. Name of Operator
TEXACO EXPLORATION & PRODUCTION, INC.

3. Address and Telephone Number:
3300 N. Butler Ave, Ste100 Farmington NM 87401 325-4397

5. Lease Designation and Serial Number:
FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Well Name and Number:
FEE SWD-2

9. API Well Number:
4301530323

10. Field and Pool, or Wildcat:
WILDCAT

Location of Well

Footages: 386' NORTH 767' WEST

County: EMERY

QQ, Sec,T.,R.,M: NE , NW , 14 , T18S , R7E

State: UT

11. **CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

NOTICE OF INTENT

(Submit in Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> OTHER _____ | |

Approximate date work will start _____

SUBSEQUENT REPORT

(Submit Original Form Only)

- | | |
|---|---|
| <input type="checkbox"/> Abandonment | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Shoot or Acidize |
| <input type="checkbox"/> Conversion to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> OTHER Inj. Pressure Exceeds | |

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

Pursuant to notification, to Mr. Gil Hunt:

On 8/15/99, Texaco's salt water disposal well, SWD#2, located at Orangeville, Utah, injected over pressure by 10 psi. The permitted injection pressure for this well is 1750 psi. The injection pressure during that day did not exceed 1760 psi.

The cause for the pressure overage was due in part to an extensive electric storm that also occurred on 8/15/99. Fluctuating power caused the automation equipment, that would have notified employees and shut down equipment, not to work.

If you have any questions, please contact Larry Schlotterback @ (505) 325 4397 x17.

**Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY**

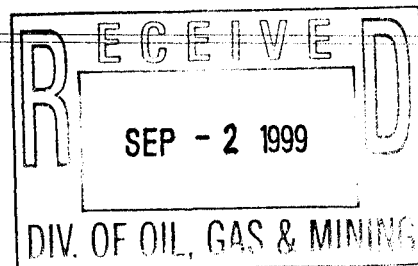
13.

Name and Signature Allen Davis

TITLE Operating Unit Manager DATE 08/26/1999

(This space for State use only)

COPY SENT TO OPERATOR
Date: 9-27-99
Initials: CHD



STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING

						5. Lease Designation and Serial Number: FEE	
SUNDRY NOTICES AND REPORTS ON WELLS						6. If Indian, Allottee or Tribe Name:	
(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)						7. Unit Agreement Name:	
1. Type of Well <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER WATER DISPOSAL						8. Well Name and Number: FEE SWD-2	
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.						9. API Well Number: 4301530323	
3. Address and Telephone Number: 3300 N. Butler Ave, Ste100 Farmington NM 87401 325-4397						10. Field and Pool, or Wildcat: WILDCAT	
Location of Well							
Footages:		386'	NORTH	767'	WEST	County: EMERY	
QQ, Sec,T.,R.,M:		NE	, NW	, 14	, T18S	, R7E	State: UT

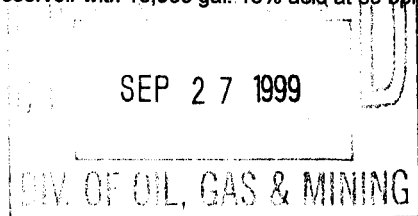
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT		SUBSEQUENT REPORT	
(Submit in Duplicate)		(Submit Original Form Only)	
<input type="checkbox"/> Abandonment <input type="checkbox"/> New Construction	<input type="checkbox"/> Abandonment <input type="checkbox"/> New Construction		
<input type="checkbox"/> Casing Repair <input type="checkbox"/> Pull or Alter Casing	<input type="checkbox"/> Casing Repair <input type="checkbox"/> Pull or Alter Casing		
<input type="checkbox"/> Change of Plans <input type="checkbox"/> Recompletion	<input type="checkbox"/> Change of Plans <input type="checkbox"/> Shoot or Acidize		
<input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Shoot or Acidize	<input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Vent or Flare		
<input checked="" type="checkbox"/> Fracture Treat <input type="checkbox"/> Vent or Flare	<input type="checkbox"/> Fracture Treat <input type="checkbox"/> Water Shut-Off		
<input type="checkbox"/> Multiple Completion <input type="checkbox"/> Water Shut-Off	<input type="checkbox"/> OTHER _____		
<input checked="" type="checkbox"/> OTHER <u>Perf. & Frac.</u>			
Approximate date work will start _____			
Date of work completion _____			
Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form.			
* Must be accompanied by a cement verification report.			


12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E. & P. INC., PROPOSES THE FOLLOWING ON THE SUBJECT WELL:

Add perforations and increase the injectivity into SWD #2. MIRUSU. Pull tbg. & pkr.. Rig up service company and perforate the Navajo 6858'-6878. (20' total) with 4 jets per foot with 90 degree phasing with 0.45" holes. Rig up service company and acid frac. Frac all perms (299' total) of net reservoir with 15,000 gal. 15% acid at 30 bpm. Trip in hole w/ 3 1/2" 9.3# L-80 tbg string and 7" Uni-pkr. Set pkr @ 6780' & put on injection.



13. _____

Name and Signature	Richard N. Carr 	TITLE	Eng. Assistant	DATE	09/22/1999
--------------------	---	-------	----------------	------	------------

(This space for State use only)

COPY SENT TO OPERATOR
Date: 10-6-77
Initials: CHO

**Approved by the
Utah Division of
Oil, Gas and Mining**

Date: 10/5/99

新

STIPULATIONS
ATTACHED

Utah Division of Oil, Gas and Mining

Attachment to **Sundry Notice and Report on Wells**
dated September 22, 1999

Subject: Request of Texaco Exploration & Production, Inc. for
permission to perforate Navajo, Kayenta and Wingate
Formations and acid-frac.
SWD #2 Well
NE/NW, Sec. 14, T18S, R7E, Emery, County
API = 43-015-30323

Conditions of Approval:

1. The annulus shall be pressure tested prior to putting
the well back on injection.

STATE OF UTAH
DIVISION OF OIL AND GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.)

1. Type of Well <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER WATER DISPOSAL	5. Lease Designation and Serial Number: FEE
2. Name of Operator TEXACO EXPLORATION & PRODUCTION, INC.	6. If Indian, Allottee or Tribe Name:
3. Address and Telephone Number: 3300 N. Butler Ave, Ste100 Farmington NM 87401 325-4397	7. Unit Agreement Name:
Location of Well Footages: 386' NORTH 767' WEST QQ, Sec, T, R, M: NE , NW , 14 , T18S , R7E	8. Well Name and Number: FEE SWD-2
9. API Well Number: 4301530323	10. Field and Pool, or Wildcat: WILDCAT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	County: EMERY State: UT
---	--------------------------------------

NOTICE OF INTENT (Submit in Duplicate)	SUBSEQUENT REPORT (Submit Original Form Only)
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Abandonment <input type="checkbox"/> Casing Repair <input type="checkbox"/> Change of Plans <input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Multiple Completion <input type="checkbox"/> OTHER _____ </div> <div style="width: 48%;"> <input type="checkbox"/> New Construction <input type="checkbox"/> Pull or Alter Casing <input type="checkbox"/> Recompletion <input type="checkbox"/> Shoot or Acidize <input type="checkbox"/> Vent or Flare <input type="checkbox"/> Water Shut-Off </div> </div>	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Abandonment <input type="checkbox"/> Casing Repair <input type="checkbox"/> Change of Plans <input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Fracture Treat <input checked="" type="checkbox"/> OTHER Perf. & Acidize </div> <div style="width: 48%;"> <input type="checkbox"/> New Construction <input type="checkbox"/> Pull or Alter Casing <input type="checkbox"/> Shoot or Acidize <input type="checkbox"/> Vent or Flare <input type="checkbox"/> Water Shut-Off </div> </div>
Approximate date work will start _____	Date of work completion _____ Report results of Multiple Completions and Recompletions to different reservoirs on Well COMPLETION OR RECOMPLETION AND LOG form. * Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to the work.)

TEXACO E. & P. INC., HAS COMPLETED THE FOLLOWING ON THE SUBJECT WELL:

Add perforations and increase the injectivity into SWD #2. MIRUSU. Pull tbg. & pkr.. Rig up service company and perforate the Navajo 6842'-6873' with 4 jets per foot with 90 degree phasing with 0.45" holes. Rig up service company and acidize w/2000 gal 15% HCL. Trip in hole w/ 4 1/2" DuoLine tbg string and 7" Uni-pkr. Set pkr @ 6754' & put on injection.

RECEIVED

FEB 22 2000

DIVISION OF
OIL, GAS AND MINING

13. Name and Signature Richard N. Carr <i>Richard Carr</i>	TITLE Eng. Assistant	DATE 02/18/2000
---	---------------------------	----------------------

(This space for State use only)

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☒ OTHER:

2. Name of Operator:

Texaco Exploration and Production, Inc.

3. Address and Telephone Number:

3300 North Butler, Farmington, NM 87401; 505-325-4397

4. Location of Well

Footages:

386' FNL, 767' FWL

QQ, Sec., T., R., M.:

NW/4 NW/4, Section 14, T18S, R7E, SLB&M

5. Lease Designation and Serial Number:

Fee

6. If Indian, Allottee or Tribe Name:

N/A

7. Unit Agreement Name:

N/A

8. Well Name and Number:

Fee SWD #2

9. API Well Number:

43-015-30323

10. Field or Pool, or Wildcat:

Wildcat

County: Emery

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandon | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Repair Casing | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Recomplete |
| <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Reperforate |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Other _____ | |

Approximate date work will start _____

SUBSEQUENT REPORT (Submit Original Form Only)

- | | |
|---|---|
| <input type="checkbox"/> Abandon * | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Repair Casing | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Reperforate |
| <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> Other <u>Produced Water Emergency Pit</u> | |

Date of work completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Application for permanent, lined, produced water emergency pit adjacent to the Ferron Field SWD #2 water disposal site.

Please refer to the following supplemental data and engineering drawing for detail about the proposed construction, upgrade, and operation of the emergency pit.

COPY SENT TO OPERATOR

Date: 11-2-00
Initials: CHD

**APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING**

DATE: 1-Nov-2000

BY: K.M. Schwartz

Pit flagging is not required

RECEIVED

OCT 30 2000

DIVISION OF
OIL, GAS AND MINING

FILE COPY

13.

Name & Signature:

Ron With

Title:

PROD. SUPERVISOR

Date:

10/25/2000

(This space for state use only)

1. BONDING OF THE PROPOSED PIT:

Bond coverage for this construction of the proposed emergency overflow pit (proposed pit) is provided by Bond Number CO-0058 (Nationwide Bond). The principle is Texaco Explorations and Production, Inc. via surety consent as provided for in 43 CFR-3104.2.

2. LOCATION OF THE PROPOSED PIT:

a. physical location

The location of the proposed emergency overflow pit (proposed pit) is on an existing Texaco patented mineral lease and on Texaco surface within the NW/4 NW/4, Section 14, T18S, R7E, Emery County, Utah (see attached plats, sheet 1 of 3).

b. surface and mineral ownership

The location of the proposed emergency overflow pit (proposed pit) is on an existing Texaco patented mineral lease and on Texaco surface. Federal surface is immediately north of the proposed construction. A line of T-posts with appropriate signs will be placed along the Texaco / Federal property boundary (north of the proposed pit) to prevent any potential for encroachment onto Federal surface. A licensed land surveyor or his representative who will also instruct all contractors of the importance of the line and the implications for conducting disturbance on Federal surface will place the T-posts at 20' increments.

c. topography

The proposed pit is in close proximity to a small-established drainage that will be stabilized through the placement of stabilizing material (3" to 6" rip-rap) along the pit side of the intermittent drainage to the west. The pit area will be located on an established drilling pad that is presently level, and stable. An inspection of the drainage, stabilizing material and pit area will be completed monthly or as determined by representatives from the Division of Oil, Gas, and Mining, and after large storm events to determine if changes, and or repairs need to be made. Furthermore, drainage that enters the small, established drainage to the north of the proposed pit will be allowed to drain west as it presently does. (See attached plats, sheet 2 of 3).

d. geology / hydrology

The location of the proposed pit is in an area where subsurface information is understood relatively well because the pit sub-grade has previously been established through an excavation completed during the drilling phase of the associated well. Because a secondary liner will be utilized no other subsurface data will be collected. The proposed pit is located in a flood plain that may receive surface water through sheet flow following large storm events that may not reach established drainages prior to entering the proposed pit area. To prevent any surface water from entering the proposed pit an 18" high compacted berm will be placed around the entire perimeter. Additionally the small established drainages around the proposed pit would be maintained to collect and divert the surface runoff around the pit within previously discussed armored channels.

e. soil stabilization

The proposed pit is located in 100% cut material generated during construction of the associated well pad. The area on the well pad where the pit will be located is comprised of about 30% fill that has been in place for over 5 years and naturally compacted. The bottom of the pit is in 100% natural cut (See attached plats, sheets 1 through 3 of 3).

RECEIVED

OCT 30 2003

DIVISION OF
OIL, GAS AND MINING

f. climatological data

The following information was obtained from a publication written by K.M. Waddell, et al, titled "Hydrologic Reconnaissance of the Wasatch Plateau-Book Cliffs Coal-fields Area, Utah. U.S. Geological Survey Water Supply Paper 2068"

"The general area environment is semi-arid with 7 to 12 inches of annual precipitation. Most precipitation occurs as winter snow and summer thunderstorms. Summer precipitation generally results from convection-type storms that move into the area from the south. These storms are generally localized and of short duration; however, they produce torrential rains that often result in flash flooding. Midsummer daytime temperatures in lower areas commonly exceed 100 F. and midwinter nighttime temperatures through the area are commonly well below 0 F. The high summer temperatures are accompanied by large evaporation rates (reported 42 inches of average annual evaporation for Price, Utah)."

Additionally, the Castle Dale weather station recorded the following information for last year:

Annual Temperature: 47.8 deg. F
Annual Precipitation: 7.39"
Annual Evaporation: not available

3. DESIGN AND CONSTRUCTION CRITERIA FOR THE PROPOSED PIT:

a. general

The proposed pit has been designed and stamped by a registered professional engineer and his appointed representatives who will oversee all construction related activities:

Professional Engineer -- John S. Huefner holding license number 144842. The proposed pit will receive produced water on an emergency basis during times when an emergency exists at the present disposal well. The permanent lined pit, as designed on the attachments, will be capable of containing a volume of approximately 4264 barrels (0.55 acre-feet, 179,088 gallons) without utilizing 2 feet of free-board.

b. pit inlet

Influent water will enter the pit 4" above the maximum water line to prevent the pipe-liner interface seal from being in continuous contact with the produced water. The pipe will be sealed through fusion or other appropriate long-term seal to prevent any leakage around the pipe-liner interface. The proposed pit will be closed to influent water, if needed, to maintain a safe and adequate storage capacity. The existing facilities are linked to the SWD-1 disposal facility that will be utilized should additional storage capability be necessary and available at the SWD-1. When both facilities are at 90% or greater capacity, production will be shut in to ensure full compliance with state requirements at all times. Produced water will only be allowed to enter through the 6" pit inlet on the east side of the pit coming from the tank battery. Trucks will not be able to load and unload water from the facility; therefore no unloading facilities have been designed into the proposed pit design.

c. slope design:

During times of emergency use the proposed pit will receive volumes in excess of 12,000 barrels per day following disposal well shutdown or other emergency. The inside of the levee has been designed and will be constructed at 3:1 whereas there will not be an outside grade since the pit is entirely in existing cut (see attached plats, sheet 2 of 3).

RECEIVED

OCT 30 2010

DIVISION OF
OIL, GAS AND MINING

d. berm design

Surface water will not be allowed to enter the proposed pit utilizing an 18" high compacted berm around the entire perimeter. The present pad will sloped away from the berm to channel any impounded water away from the berm and into the low corner of the pad or into established rip-rap stabilized drainages. An inspection of the berms and associated structures will be completed as determined by representatives of the Division of Oil, Gas, and Mining, and after large storm events to determine if changes, and or repairs need to be made.

e. leak detection system

A French drain line will be installed above the secondary liner and below the primary liner with a monitor pipe attached to each French drain. A 6" layer of pea gravel will be placed around the French drain between the two liners on the bottom of the pit to serve as a conduit to the leak detection system for any liquids that may breach the primary liner. The secondary bentonite liner will be installed and sealed around the monitor pipe to prevent any produced water from leaving the secondary liner except through the monitor pipe. The monitor pipe will exit outside of the pit area into a 3' diameter corrugated steel sump that will facilitate the visual inspection of the drain and the cleaning out of accumulated rainwater should rainwater become present in the sump (see attached plats, sheet 3 of 3). The monitor station will be monitored monthly or as determined by representatives of the Division of Oil, Gas, and Mining.

f. livestock and wildlife protection measures

The proposed pit will be fenced with a five foot steel fence consisting of four feet of 4" woven wire topped with two strands of barbed wire. Gates installed along the fence will be locked at all times to prevent unauthorized entry. Nylon rope with colored flags tied at 5' intervals will be stretched lengthwise across the pit five feet apart to prevent waterfowl from entering the pit. The fence, gates, and the flag lines will be inspected for damage or deterioration monthly and repairs made immediately to correct the problem. Additionally the flag lines will possess a tightening device at one end so routine tightening of the lines can be accomplished rapidly and frequently, if needed.

g. pit identification

A 24" by 18" sign containing legal description, lease name, operator and county will be established and maintained at the proposed pit for identification. The lettering on the sign shall be kept in a legible condition and shall be large enough to be legible under normal conditions at a distance of 25'.

4. OPERATION OF THE PROPOSED PIT:

a. storage capacity

The proposed pit will be closed to influent water, if needed, to maintain a safe and adequate storage capacity while maintaining 2 feet of freeboard (approximately 1,300 bbls). The existing facilities are linked to the SWD-1 disposal facility that will be utilized should additional storage capability be necessary and available at the SWD-1. When both facilities are at 90% or greater capacity, production will be shut in to ensure full compliance with state requirements at all times. Subsurface discharge of water will be prevented through use of a 60-mil synthetic primary liner and 12" bentonite secondary liner that will be separated by a sand and pea-gravel layer to serve as a conduit to the proposed leak detection system.

RECEIVED

OCT 30 2000

DIVISION OF
OIL, GAS AND MINING

5. PRIMARY AND SECONDARY LINER

a. physical properties of the synthetic liner

The synthetic liner has the following technical specifications provided by the manufacturer: Density – 0.94, Tensile Strength – 120 lbs., Tear Strength – 22 lbs., Puncture Resistance – 30 lbs., Elongation – 750%,

b. environmental properties of the synthetic liner

One-60 mil High Density Poly Ethylene geomembrane synthetic liner will be utilized for the construction of the proposed pit with the following environmental specifications:

Hydrostatic Resistance – 330 psi., Environmental Stress Crack – 3000, Ozone Resistance – (no cracks). The liner material is impervious and resistant to weather, sunlight, hydrocarbons, acids, alkalis, salt, fungi and is commonly used in produced water pits in the state.

c. secondary liner details

A secondary 12" bentonite clay liner underlying the leak detection system is required because of the high permeability of the soils in the area proposed for pit construction.

d. liner installation

The synthetic liners detailed above have an anticipated lifespan of 30 years. An inspection of the liner and seals will be completed as determined by representatives of the Division of Oil, Gas, and Mining, and replaced when necessary. All installation practices will adhere to factory specification and be performed by factory authorized installers under the direction of a Professional Engineer or his representative. The above specified liner will be unrolled and multiple lengths placed along the bottom and sides of the pit in an effort to minimize seams. The seams and pipe-liner interfaces will then be fused together with heat until a solid impermeable liner exists. A factory representative or a representative from the Division of Oil, Gas, and Mining will visually inspect the entire liner. The liner will then be tested according to factory specifications. Finally the liner ends will be keyed into a trench and buried along the perimeter of the pit.

e. liner repair

A cold adhesive patch with 3M 4692 Mastic Glue will be used should a tear or puncture form in the liner material. If necessary, the pit will be pumped dry in order to make repairs.

6. WASTE MANAGEMENT:

a. solid waste

We do not anticipate any precipitated solids. Should any solids precipitate, they will be transported by truck to a licensed landfill, or in the case of small quantities will be enclosed in the pit at the end of its useful life when the pit is reclaimed.

b. hydrocarbon waste

No hydrocarbons accumulation is anticipated since produced water will enter through a pipeline following a series of tanks. The tank battery would trap any hydrocarbons if they become present in the produced water. In the unlikely event of hydrocarbons entering the pit they will be cleaned up immediately with absorbent pads that will then be hauled away to a licensed landfill.

RECEIVED

OCT 30 1990

DIVISION OF
OIL, GAS AND MINING

Texaco Exploration and
Production Inc.
MidContinent Business Unit
11111 S. Wilcrest
Houston, TX 77099
Tel 281 561 4894
kephaim@chevrontexaco.com

Ian M. Kephart
Production Engineer
CoalBed Methane Team

ChevronTexaco

March 15, 2002

Mr. Gil Hunt
State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

Subject: UDOGM Form 9-Sundry Notice
Texaco E&P Inc. Salt Water Disposal Well - SWD #2
NW/NW of Section 14, Township 18S, Range 7E, Emery County, Utah

Dear Mr. Hunt:

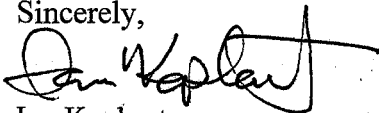
Enclosed is a sundry notice indicating our intentions of repairing a suspected tubing leak in the SWD #2 well. As you recall, we had experienced a minor leak in August of 2001, but was unable to find it, so the SWD #2 was put back on line with continued casing monitoring.

Recently the tubing leak has increased to where we are confident the failure can be found and repaired. However, we are awaiting the installation of a Reverse Osmosis Facility before shutting down the SWD #2 for this work.

Once the Reverse Osmosis facility is running 100%, this will give us the disposal capacity needed to shut down the SWD #2 and not have to shut-in producing wells.

If you have any questions, please call me at (281) 561-4894. We will keep you posted on the progress of this tubing repair.

Sincerely,



Ian Kephart

RECEIVED

MAR 19 2002

DIVISION OF
OIL, GAS AND MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Salt Water Disposal</u>		5. LEASE DESIGNATION AND SERIAL NUMBER: Fee
2. NAME OF OPERATOR: Texaco North American Production, Inc.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 11111 S. Wilcrest CITY Houston STATE TX ZIP 77099		7. UNIT or CA AGREEMENT NAME:
PHONE NUMBER: (281) 561-4894		8. WELL NAME and NUMBER: SWD #2
4. LOCATION OF WELL FOOTAGES AT SURFACE: <u>386' FNL 767' FWL</u>		9. API NUMBER: 4301530323
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <u>NENW 14 18S 7E</u>		10. FIELD AND POOL, OR WILDCAT: Buzzard Bench
COUNTY: <u>EMERY</u>		STATE: <u>UTAH</u>

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>4/1/2002</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input checked="" type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

SWD #2 has developed a tubing leak. Texaco North American Production intends to rig up on this well and repair the tubing leak at the time our Reverse Osmosis facility is running at 100%. The Reverse Osmosis facility will handle all injection capacities of the SWD #2 well so the producing wells do not have to be shut-in. The Reverse Osmosis facility is expected to be running 100% by 4/1/2002.

RECEIVED

MAR 19 2002

DIVISION OF
OIL, GAS AND MINING

COPY SENT TO OPERATOR

Date: 3-20-02
Initials: CKO

NAME (PLEASE PRINT) Ian M. Kephart

TITLE Production Engineer

SIGNATURE Ian M. Kephart

DATE 3/7/2002

(This space for State use only)

Accepted by the
Utah Division of
Oil, Gas and Mining

Date: 3-19-02
By: A. J. Hunt



Chevron

Chevron U.S.A. Production Company
Mid-Continent Business Unit
P.O. Box 36366
Houston, TX 77236
Phone 713 754 2000

April 9, 2002

Mr. John Baza,
Associate Director of Oil and Gas
Utah Department of Natural Resources
Division of Oil, Gas & Mining
1594 W. North Temple St., Suite 1210
Salt Lake City, UT 84114-5801

RECEIVED

APR 12 2002

DIVISION OF
OIL, GAS AND MINING

Dear Mr. Baza:

As you may recall from our meeting last year, we planned to combine the assets of Chevron U.S.A. Inc. ("CUSA"), by merger, and Texaco Exploration and Production Inc. ("TEPI"), by assignment, into a new entity which we referred to as "Newco LP". Along the way, additional information came to light and it was decided that this proposed corporate restructure would not be preferable. Therefore, CUSA and TEPI have continued to operate as separate entities.

We are now planning a simpler restructuring process where TEPI will assign most of its assets/operatorship to CUSA effective May 1, 2002. We plan to use the existing CUSA bonds/letters of credit, operator identification numbers, etc., for the TEPI assets that will be assigned.


A task force of Land, Regulatory and Environmental Compliance personnel are finishing the work that was begun last year to assign TEPI's assets—using the same forms and procedures as before. We have "new faces" in this task force due to reassignments and departures. In some cases, it may be worthwhile to visit you and your staff in person where new people are involved or if we need to review/clarify your forms and procedures. Otherwise, we will endeavor to complete the work to assign TEPI's assets/operatorship to CUSA and deliver the requisite materials to you in a timely manner.

During discussions last year, our focus was on Land, Regulatory and Environmental matters. The Finance organization also desires to join in this effort. For State Tax, Royalty and Regulatory reporting purposes (applicable to production from May 2002 through December 2002), we intend to generate two reports and two payments.

However, the reporting company name and identification number will be CUSA's. Beginning with January 2003 production and thereafter, we will issue only one CUSA report and payment. We trust this plan meets with your approval. Any questions or comments should be directed to Rick Dunlavy (telephone 713/752-7411, rickdunlavy@chevrontexaco.com).

We appreciate the cooperation and guidance you provided us in the past, and we look forward to bringing these efforts to a conclusion.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Don R. Sellars". The signature is fluid and cursive, with the first name "Don" being prominent.

Don R. Sellars

Sr. Environmental Specialist

Chevron U.S.A. Inc.
Midcontinent Business Unit
Ferron Operations
Emery County, Utah

Name / Operatorship Change
Texaco Exploration and Production Inc.
to
Chevron U.S.A. Inc.
Disposal Wells

Account Number	Section	Township	Range	API Number	Well Name	Lease Type	Well Status Main	Well Type Main	Fed or State
N5700	15	170S	080E	4301530490	SWD 4	4	APD	WD	FEE
N5700	11	180S	070E	4301530303	SWD 3	4	I	WD	FEE
N5700	14	180S	070E	4301530323	SWD 2	4	A	WD	FEE
N5700	24	180S	070E	4301530272	SWD 1	4	A	WD	FEE
N5700	23	18S	080E	4301530510	SWD 5	4	I	WD	FEE

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL ☐ GAS WELL ☐ OTHER Operator Name Change

2. NAME OF OPERATOR:
Chevron U.S.A. Inc.

3. ADDRESS OF OPERATOR:
P.O. Box 36366 CITY Houston STATE TX ZIP 77236

PHONE NUMBER:
(281) 561-3443

4. LOCATION OF WELL

FOOTAGES AT SURFACE: See Attached List of Wells

COUNTY: Emery

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE:

UTAH

5. LEASE DESIGNATION AND SERIAL NUMBER:
See Attached List of Wells

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
BLM & State of Utah

7. UNIT or CA AGREEMENT NAME:
Orangeville & Huntington

8. WELL NAME and NUMBER:
See Attached List of Wells

9. API NUMBER:

10. FIELD AND POOL, OR WILDCAT:

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: <u>Operator Name Change (Merger)</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective May 1, 2002, Chevron U.S.A. Inc. is the new operator of the attached list of subject wells and leases that were previously operated by Texaco Exploration and Production Inc. The subject wells are located North of Orangeville and North of Huntington, Emery County, Utah. These Wells will be protected by the following surety bonds:

STATE OF UTAH Bond #: 103521627-0016 in the amount of \$80,000. (This bond will replace United Pacific Insurance Company bond number U89-75-80-0059. We respectfully request this bond be released and returned.)

BLM Nationwide Bond#: U89-75-81-0034 in the amount of \$300,000.

Key Contacts:

Ron Wirth - Operations Supervisor - 435 748-5395 x1
Texaco Exploration & Production Inc.

J. S. Purdy, Attorney-In-Fact

RECEIVED

MAY 06 2002

DIVISION OF
OIL, GAS AND MINING

NAME (PLEASE PRINT) Allen S. Robinson

TITLE Attorney-In-Fact

SIGNATURE Allen S. Robinson

DATE April 30, 2002

(This space for State use only)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

UIC FORM 5

TRANSFER OF AUTHORITY TO INJECT

Well Name and Number Orangeville & Huntington, Emery County, Utah (See Attached Well List)		API Number
Location of Well Footage: See attached well locations County: Emery		Field or Unit Name See Attached Well List
QQ, Section, Township, Range: State: UTAH		Lease Designation and Number See Attached Well List

EFFECTIVE DATE OF TRANSFER: 5/1/2002

CURRENT OPERATOR

Company: Texaco Exploration and Production Inc

Name: Allen S. Robinson

Address: 3300 North Butler, Suite 100

Signature: 

city Farmington state NM zip 87401

Title: Attorney-In-Fact

Phone: (505) 325-4397

Date: April 30, 2002

Comments:

NEW OPERATOR

Company: Chevron U.S.A. Inc.

Name: J. Scott Purdy

Address: P.O. Box 36366

Signature: 

city Houston state TX zip 79702

Title: Attorney-In-Fact

Phone: (915) 687-2000

Date: May 1, 2002

Comments:

(This space for State use only)

Transfer approved by: 

Approval Date: 8/5/02

Title: F. S. Surber

Comments: SWD#2, due for MIT in 12/02.

RECEIVED

MAY 06 2002

DIVISION OF
OIL, GAS AND MINING

OPERATOR CHANGE WORKSHEET

ROUTING

1. GLH	<input checked="" type="checkbox"/>
2. CDW	
3. FILE	

Change of Operator (Well Sold)

Designation of Agent

Operator Name Change

X Merger

The operator of the well(s) listed below has changed, effective: 05-01-2002

FROM: (Old Operator):	TO: (New Operator):
TEXACO EXPLORATION & PRODUCTION INC	CHEVRON USA INC
Address: 3300 NORTH BUTLER, SUITE 100	Address: P O BOX 36366
FARMINGTON, NM 87401	HOUSTON, TX 79702
Phone: 1-(505)-325-4397	Phone: 1-(915)-687-2000
Account No. N5700	Account No. N0210

CA NO.

Unit:

WELL(S)

NAME	SEC TWN RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
SWD 3	11-18S-07E	43-015-30303	12915	FEE	SWD	I
SWD 2	14-18S-07E	43-015-30323	12279	FEE	SWD	A
SWD 1	24-18S-07E	43-015-30272	99990	FEE	SWD	A

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 05/06/2002
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 04/12/2002
- The new company has been checked through the **Department of Commerce, Division of Corporations Database** on: 08/01/2002
- Is the new operator registered in the State of Utah: YES Business Number: 564408-0143
- If **NO**, the operator was contacted on: N/A
- (R649-9-2) Waste Management Plan received on: IN PLACE

- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: N/A

7. Federal and Indian Units:

The BLM or BIA has approved the successor of unit operator for wells listed on: N/A

8. Federal and Indian Communization Agreements ("CA"):

The BLM or BIA has approved the operator for all wells listed within a CA on: N/A

9. Underground Injection Control ("UIC")

The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 08/05/2002

DATA ENTRY:

1. Changes entered in the Oil and Gas Database on: 08/01/2002
2. Changes have been entered on the Monthly Operator Change Spread Sheet on: 08/01/2002
3. Bond information entered in RBDMS on: N/A
4. Fee wells attached to bond in RBDMS on: N/A

STATE WELL(S) BOND VERIFICATION:

1. State well(s) covered by Bond Number: N/A

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: N/A

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: N/A

FEE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 103521627-0018
2. The **FORMER** operator has requested a release of liability from their bond on: N/A
The Division sent response by letter on: N/A

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 08/01/2002

COMMENTS:

INJECTION WELL - PRESSURE TEST

3

Well Name: <u>SWD #2</u>	API Number: <u>43-015-30320</u>
Qtr/Qtr: <u>NNW</u> Section: <u>14</u>	Township: <u>18 S</u> Range: <u>7 E</u>
Company Name: <u>Chevron Texaco</u>	
Lease: State _____ Fee <input checked="" type="checkbox"/>	Federal _____ Indian _____
Inspector: <u>Mark Jones</u>	Date: <u>June 25, 2003</u>

Initial Conditions:

Tubing - Rate: 0 Pressure: 220 psi

Casing/Tubing Annulus - Pressure: 0 psi

Conditions During Test:

Time (Minutes)	Annulus Pressure	Tubing Pressure
7:25 am 0	<u>2725 #</u>	<u>220 #</u>
5	_____	_____
10	_____	_____
7:40 am 15	<u>2725 #</u>	<u>220 #</u>
20	_____	_____
25	_____	_____
30	_____	_____

Results: Pass/Fail

Conditions After Test:

Tubing Pressure: 220 psi

Casing/Tubing Annulus Pressure: 0 psi

COMMENTS: pulled all tubing, eliminated on/off tool,
reset packer @ 6754'.

Annulus has held 2725# overnight.

Lon With

Operator Representative

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

UIC FORM 5

TRANSFER OF AUTHORITY TO INJECT

Well Name and Number SWD 2 Permit #UIC-205.1	API Number 4301530323
Location of Well Footage : 386' FNL 767' FWL County : Emery QQ, Section, Township, Range: NWNW 14 18S 7E State : UTAH	Field or Unit Name Buzzard Bench Lease Designation and Number

EFFECTIVE DATE OF TRANSFER: 8/17/2004

CURRENT OPERATOR

N0210

Company: Chevron U.S.A. Inc.
Address: 11111 S. Wilcrest
city Houston state Tx zip 77099
Phone: (281) 561-4991
Comments:

Name: Kenneth W. Jackson
Signature: *Kenneth W. Jackson*
Title: Regulatory Specialist
Date:

NEW OPERATOR

N2615

Company: XTO ENERGY INC.
Address: 2700 Farmington Ave. Bldg K. Suite 1
city Farmington state NM zip 87401
Phone: (505) 324-1090
Comments:

Name: James L. Deaith
Signature: *James L. Deaith*
Title: Vice President-Land
Date: 8/16/04

(This space for State use only)

Transfer approved by: *Daniel J. Janni*
Title: VIC Geologist

Approval Date: 9/28/04

Comments:

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: Various Leases
2. NAME OF OPERATOR: XTO ENERGY INC. <i>N2615</i>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 2700 Farmington Bldg K, Suite _____ CITY Farmington STATE NM ZIP 87401		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: _____ COUNTY: Emery		8. WELL NAME and NUMBER: See attached list
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: _____ STATE: UTAH		9. API NUMBER: Multiple
		10. FIELD AND POOL, OR WILDCAT: Buzzard Bench

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective August 1, 2004, the operator changed from Chevron U.S.A. Inc. to XTO ENERGY INC. for all wells on the attached list.

BLM #579173

State and Fee Bond #104312762

Kenneth W. Jackson

Kenneth W. Jackson Regulatory Specialist ChevronTexaco for Chevron U.S.A. Inc. *N0210*

NAME (PLEASE PRINT) <i>James L. Death</i>	TITLE <i>Vice President - Land</i>
SIGNATURE <i>James L. Death</i>	DATE <i>8/16/04</i>

(This space for State use only)

APPROVED *9/30/2004*

Earlene Russell

Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

(5/2000)

RECEIVED

SEP 28 2004

DIV. OF OIL, GAS & MINING

API Well Number	Well Name	Well Type	County Name	Qtr/Qtr	Section	Twn-Rng
43-015-30242-00-00	L M LEMMON 10-1	Gas Well	EMERY	SESE	10	17S-8E
43-015-30243-00-00	FEDERAL B21-3	Gas Well	EMERY	NESW	21	19S-7E
43-015-30244-00-00	FEDERAL A26-2	Gas Well	EMERY	SESW	26	18S-7E
43-015-30245-00-00	FEDERAL C23-8	Gas Well	EMERY	NENW	23	18S-7E
43-015-30246-00-00	FEDERAL A26-4	Gas Well	EMERY	SWSE	26	18S-7E
43-015-30247-00-00	FEDERAL A35-6	Gas Well	EMERY	NWNW	35	18S-7E
43-015-30248-00-00	FEDERAL A35-5	Gas Well	EMERY	NWNE	35	18S-7E
43-015-30249-00-00	FEDERAL A34-7	Gas Well	EMERY	NENE	34	18S-7E
43-015-30258-00-00	UTAH FED P 10-47	Gas Well	EMERY	NWNW	10	18S-7E
43-015-30259-00-00	A L JENSEN 27-9	Gas Well	EMERY	SESE	27	21S-6E
43-015-30268-00-00	ST OF UT T 36-10	Gas Well	EMERY	SWNE	36	16S-7E
43-015-30270-00-00	ST OF UT U 2-11	Gas Well	EMERY	NWNW	2	18S-7E
43-015-30272-00-00	SWD 1	Water Disposal Well	EMERY	SWNW	24	18S-7E
43-015-30274-00-00	UTAH FED S 8-46	Gas Well	EMERY	SESW	8	18S-7E
43-015-30275-00-00	UTAH FED R 9-45	Gas Well	EMERY	NWNE	9	18S-7E
43-015-30276-00-00	UTAH FED P 10-42	Gas Well	EMERY	NWNE	10	18S-7E
43-015-30277-00-00	UTAH FED P 10-43	Gas Well	EMERY	NWSE	10	18S-7E
43-015-30280-00-00	UTAH FED Q 4-44	Gas Well	EMERY	SESE	4	18S-7E
43-015-30282-00-00	UTAH FED D 34-12	Gas Well	EMERY	SESE	34	17S-7E
43-015-30285-00-00	UTAH FED D 35-13	Gas Well	EMERY	SWSW	35	17S-7E
43-015-30286-00-00	UTAH FED D 35-14	Gas Well	EMERY	NWNW	35	17S-7E
43-015-30287-00-00	UTAH FED D 35-15	Gas Well	EMERY	SWSE	35	17S-7E
43-015-30292-00-00	UTAH FED M 6-25	Gas Well	EMERY	SENE	6	17S-8E
43-015-30294-00-00	UTAH FED H 6-21	Gas Well	EMERY	SESW	6	20S-7E
43-015-30303-00-00	SWD 3	Water Disposal Well	EMERY	SENE	11	18S-7E
43-015-30306-00-00	ST OF UT U 2-48	Gas Well	EMERY	NWNE	2	18S-7E
43-015-30308-00-00	ST OF UT U 2-50	Gas Well	EMERY	NESW	2	18S-7E
43-015-30309-00-00	ST OF UT U 2-49	Gas Well	EMERY	NWSE	2	18S-7E
43-015-30310-00-00	L & M CURTIS 10-58	Gas Well	EMERY	SWSW	10	18S-7E
43-015-30311-00-00	ST OF UT X 16-66	Gas Well	EMERY	SENW	16	18S-7E
43-015-30312-00-00	ST OF UT X 16-65	Gas Well	EMERY	NWNE	16	18S-7E
43-015-30313-00-00	U P & L 14-53	Gas Well	EMERY	SESE	14	18S-7E
43-015-30314-00-00	U P & L 14-55	Gas Well	EMERY	NWNW	14	18S-7E
43-015-30315-00-00	U P & L 23-51	Gas Well	EMERY	SENE	23	18S-7E
43-015-30316-00-00	U P & L 24-57	Gas Well	EMERY	NWNW	24	18S-7E
43-015-30318-00-00	D & A JONES 15-68	Gas Well	EMERY	NENW	15	18S-7E
43-015-30319-00-00	D&D CURTIS 14-54	Gas Well	EMERY	SENE	14	18S-7E
43-015-30320-00-00	P & K PEACOCK 8-62	Gas Well	EMERY	SWNE	8	18S-7E
43-015-30321-00-00	PEACOCK TRUST 9-60	Gas Well	EMERY	NWSW	9	18S-7E
43-015-30323-00-00	SWD 2	Water Disposal Well	EMERY	NWNW	14	18S-7E
43-015-30324-00-00	R G NORRIS 14-40	Gas Well	EMERY	NESW	14	18S-7E
43-015-30325-00-00	L & M CURTIS 15-67	Gas Well	EMERY	NENE	15	18S-7E
43-015-30326-00-00	PEACOCK TRUST 8-61	Gas Well	EMERY	NESE	8	18S-7E
43-015-30327-00-00	PEACOCK 7-64	Gas Well	EMERY	NENE	7	18S-7E
43-015-30328-00-00	PEACOCK TRUST 8-63	Gas Well	EMERY	SENW	8	18S-7E
43-015-30329-00-00	D & A JONES 9-59	Gas Well	EMERY	SESE	9	18S-7E
43-015-30381-00-00	UTAH STATE 1-76	Gas Well	EMERY	NWNW	1	18S-7E
43-015-30382-00-00	UTAH STATE 36-78	Gas Well	EMERY	SWSW	36	17S-7E
43-015-30383-00-00	USA 3-74	Gas Well	EMERY	SESE	3	18S-7E
43-015-30384-00-00	USA 3-75	Gas Well	EMERY	NENE	3	18S-7E
43-015-30385-00-00	USA 11-70	Gas Well	EMERY	SWSE	11	18S-7E
43-015-30386-00-00	USA 11-71	Gas Well	EMERY	SWNE	11	18S-7E
43-015-30387-00-00	USA 11-72	Gas Well	EMERY	NWNW	11	18S-7E
43-015-30388-00-00	USA 11-73	Gas Well	EMERY	NWSW	11	18S-7E
43-015-30389-00-00	USA 34-80	Gas Well	EMERY	SENE	34	17S-7E
43-015-30390-00-00	USA 34-82	Gas Well	EMERY	SESW	34	17S-7E
43-015-30393-00-00	ST OF UT EE 06-138	Gas Well	EMERY	NENW	6	17S-9E
43-015-30396-00-00	ST OF UT AA 07-106	Gas Well	EMERY	NWNE	7	17S-8E
43-015-30437-00-00	ST OF UT BB 09-119	Gas Well	EMERY	SESW	9	17S-8E
43-015-30438-00-00	ST OF UT CC 10-124	Gas Well	EMERY	SENE	10	17S-8E
43-015-30439-00-00	ST OF UT DD 31-98	Gas Well	EMERY	NWSW	31	17S-8E
43-015-30440-00-00	FEDERAL T 27-85	Gas Well	EMERY	SENW	27	18S-7E
43-015-30441-00-00	UP&L 06-102	Gas Well	EMERY	NENW	6	17S-8E
43-015-30442-00-00	UP&L 06-104	Gas Well	EMERY	NESE	6	17S-8E
43-015-30443-00-00	WM S IVIE ET AL 09-118	Gas Well	EMERY	SWNE	9	17S-8E

API Well Number	Well Name	Well Type	County Name	Qtr/Qtr	Section	Twn-Rng
43-015-30444-00-00	ST OF UT BB 09-120	Gas Well	EMERY	NESE	9	17S-8E
43-015-30445-00-00	FEDERAL A 26-88	Gas Well	EMERY	SWNW	26	18S-7E
43-015-30446-00-00	FEDERAL A 35-89	Gas Well	EMERY	NWSW	35	18S-7E
43-015-30447-00-00	FEDERAL C 23-84	Gas Well	EMERY	NESW	23	18S-7E
43-015-30448-00-00	FEDERAL P 3-92	Gas Well	EMERY	SESW	3	18S-7E
43-015-30449-00-00	FEDERAL P 3-93	Gas Well	EMERY	SWNW	3	18S-7E
43-015-30450-00-00	FEDERAL T 21-94	Gas Well	EMERY	NENE	21	18S-7E
43-015-30451-00-00	FEDERAL T 22-69	Gas Well	EMERY	NENE	22	18S-7E
43-015-30452-00-00	FEDERAL T 22-83	Gas Well	EMERY	SWSE	22	18S-7E
43-015-30453-00-00	FEDERAL T 22-91	Gas Well	EMERY	NENW	22	18S-7E
43-015-30454-00-00	ST OF UT CC 10-123	Gas Well	EMERY	NWNW	10	17S-8E
43-015-30455-00-00	FEDERAL T 27-86	Gas Well	EMERY	SENE	27	18S-7E
43-015-30456-00-00	FEDERAL T 27-87	Gas Well	EMERY	SESE	27	18S-7E
43-015-30457-00-00	FEDERAL T 27-90	Gas Well	EMERY	NWSW	27	18S-7E
43-015-30458-00-00	ST OF UT FF 10-125	Gas Well	EMERY	NESW	10	17S-8E
43-015-30459-00-00	ST OF UT FF 11-129	Gas Well	EMERY	NWNW	11	17S-8E
43-015-30462-00-00	ST OF UT FF 11-130	Gas Well	EMERY	NWSW	11	17S-8E
43-015-30478-00-00	GARDNER TRUST ET AL 16-121	Gas Well	EMERY	NENE	16	17S-8E
43-015-30479-00-00	ST OF UT BB 05-107	Gas Well	EMERY	SENW	5	17S-8E
43-015-30480-00-00	ST OF UT BB 05-108	Gas Well	EMERY	NWSW	5	17S-8E
43-015-30481-00-00	ST OF UT BB 05-109	Gas Well	EMERY	SENE	5	17S-8E
43-015-30482-00-00	ST OF UT BB 05-110	Gas Well	EMERY	SWSE	5	17S-8E
43-015-30483-00-00	UP&L 06-103	Gas Well	EMERY	NESW	6	17S-8E
43-015-30484-00-00	AMERICA WEST GROUP ET AL 15-126	Gas Well	EMERY	NENW	15	17S-8E
43-015-30485-00-00	W H LEONARD ET AL 15-127	Gas Well	EMERY	NENE	15	17S-8E
43-015-30486-00-00	ROWLEY 08-111	Gas Well	EMERY	SENW	8	17S-8E
43-015-30490-00-00	SWD 4	Water Disposal Well	EMERY	SENE	15	17S-8E
43-015-30495-00-00	SEELEY 08-112	Gas Well	EMERY	NENE	8	17S-8E
43-015-30496-00-00	ST OF UT BB 08-113	Gas Well	EMERY	NWSE	8	17S-8E
43-015-30497-00-00	ST OF UT AA 07-105	Gas Well	EMERY	SWNW	7	17S-8E
43-015-30498-00-00	ST OF UT 01-97	Gas Well	EMERY	SENE	1	18S-7E
43-015-30499-00-00	ST OF UT GG 03-122	Gas Well	EMERY	SWSW	3	17S-8E
43-015-30500-00-00	ST OF UT HH 03-133	Gas Well	EMERY	SWSE	3	17S-8E
43-015-30501-00-00	SEELEY FARMS 09-117	Gas Well	EMERY	NWNW	9	17S-8E
43-015-30502-00-00	ST OF UT GG 15-128	Gas Well	EMERY	NWSW	15	17S-8E
43-015-30503-00-00	ST OF UT BB 04-116	Gas Well	EMERY	SWSE	4	17S-8E
43-015-30504-00-00	ST OF UT GG 04-115	Gas Well	EMERY	NESW	4	17S-8E
43-015-30505-00-00	BURNSIDE 14-132	Gas Well	EMERY	NWNE	14	17S-8E
43-015-30506-00-00	ST OF UT T 36-100	Gas Well	EMERY	NESE	36	16S-7E
43-015-30507-00-00	UT FED KK 01-140	Gas Well	EMERY	SENW	1	17S-7E
43-015-30508-00-00	ST OF UT II 36-96	Gas Well	EMERY	NWSE	36	17S-7E
43-015-30509-00-00	ST OF UT II 36-95	Gas Well	EMERY	NWNE	36	17S-7E
43-015-30510-00-00	SWD 5	Water Disposal Well	EMERY	SESE	23	17S-8E
43-015-30511-00-00	UP&L FED 01-101	Gas Well	EMERY	SENE	1	17S-7E
43-015-30520-00-00	ST OF UT SS 22-165	Gas Well	EMERY	NENE	22	17S-8E
43-015-30521-00-00	ZIONS FED 35-135R (RIG SKID)	Gas Well	EMERY	NESW	35	16S-7E
43-015-30528-00-00	ST OF UT 14-170	Gas Well	EMERY	SWSE	14	17S-8E
43-015-30529-00-00	CONOVER 14-171	Gas Well	EMERY	NWSW	14	17S-8E
43-015-30530-00-00	ST OF UT 36-139	Gas Well	EMERY	NWSW	36	16S-7E
43-015-30533-00-00	ST OF UT FO 02-186	Gas Well	EMERY	NENW	2	17S-8E
43-015-30549-00-00	ST OF UT JJ 03-160	Gas Well	EMERY	NWNW	3	17S-8E
43-015-30550-00-00	ST OF UT 36-138	Gas Well	EMERY	SWNW	36	16S-7E
43-015-30551-00-00	UT FED P 12-153	Gas Well	EMERY	NWNW	12	18S-7E
43-015-30552-00-00	ST OF UT CC 03-161	Gas Well	EMERY	SENE	3	17S-8E
43-015-30553-00-00	ST OF UT FO 02-188	Gas Well	EMERY	NWSW	2	17S-8E
43-015-30554-00-00	ST OF UT BB 04-158	Gas Well	EMERY	NENW	4	17S-8E
43-015-30555-00-00	ST OF UT BB 04-159	Gas Well	EMERY	SWNE	4	17S-8E
43-015-30556-00-00	MALONE 14-131	Gas Well	EMERY	SWNW	14	17S-8E
43-015-30559-00-00	UT FED KK 01-141	Gas Well	EMERY	SESE	1	17S-7E
43-015-30560-00-00	ST OF UT FO 02-189	Gas Well	EMERY	SWNE	2	17S-8E
43-015-30561-00-00	ST OF UT GG 15-184	Gas Well	EMERY	NWSE	15	17S-8E
43-015-30562-00-00	STATE OF UTAH "LL" 31-20	Gas Well	EMERY	NWNW	31	17S-8E
43-015-30566-00-00	ST OF UT "KK" 32-145	Gas Well	EMERY	NESE	32	16S-8E
43-015-30567-00-00	ST OF UT "KK" 32-144	Gas Well	EMERY	SWSW	32	16S-8E
43-015-30568-00-00	ST OF UT "AA" 18-153	Gas Well	EMERY	SESW	18	17S-8E

API Well Number	Well Name	Well Type	County Name	Qtr/Qtr	Section	TwN-Rng
43-015-30569-00-00	ST OF UT "AA" 07-146	Gas Well	EMERY	NESW	7	17S-8E
43-015-30570-00-00	ST OF UT "AA" 18-154	Gas Well	EMERY	NESE	18	17S-8E
43-015-30571-00-00	ST OF UT "AA" 17-156	Gas Well	EMERY	SWSE	17	17S-8E
43-015-30572-00-00	ST OF UT "AA" 18-149	Gas Well	EMERY	SESW	18	17S-8E
43-015-30573-00-00	ST OF UT "MM" 20-192	Gas Well	EMERY	SESW	20	17S-8E
43-015-30574-00-00	ST OF UT "MM" 20-193	Gas Well	EMERY	NENE	20	17S-8E
43-015-30575-00-00	ST OF UT MM 20-194	Gas Well	EMERY	NWSW	20	17S-8E
43-015-30576-00-00	ST OF UT AA 07-147	Gas Well	EMERY	SESE	7	17S-8E
43-015-30577-00-00	ST OF UT BB 08-148	Gas Well	EMERY	NWSW	8	17S-8E
43-015-30578-00-00	ST OF UT AA 18-150	Gas Well	EMERY	NWNE	18	17S-8E
43-015-30579-00-00	ST OF UT NN 19-157	Gas Well	EMERY	NENE	19	17S-8E
43-015-30580-00-00	ST OF UT AA 17-152	Gas Well	EMERY	NENE	17	17S-8E
43-015-30581-00-00	ST OF UT OO 16-190	Gas Well	EMERY	NESW	16	17S-8E
43-015-30582-00-00	ST OF UT PP 16-191	Gas Well	EMERY	NESE	16	17S-8E
43-015-30583-00-00	ST OF UT AA 17-151	Gas Well	EMERY	NENW	17	17S-8E
43-015-30585-00-00	ST OF UT MM 21-195	Gas Well	EMERY	NENW	21	17S-8E
43-015-30586-00-00	ST OF UT GG 21-163	Gas Well	EMERY	NENE	21	17S-8E
43-015-30587-00-00	ZIONS FED 35-137	Gas Well	EMERY	NESE	35	16S-7E
43-015-30589-00-00	UTAH FED 01-205D	Gas Well	EMERY	SESW	1	17S-7E
43-015-30590-00-00	ZIONS FED 02-134	Gas Well	EMERY	NWNW	2	17S-7E
43-015-30591-00-00	UTAH FED 12-197	Gas Well	EMERY	SENE	12	17S-7E
43-015-30592-00-00	ST OF UT QQ 31-201	Gas Well	EMERY	SESW	31	16S-8E
43-015-30593-00-00	ST OF UT AA 17-155	Gas Well	EMERY	SWSW	17	17S-8E
43-015-30601-00-00	UTAH FED 12-199	Gas Well	EMERY	NESE	12	17S-7E
43-015-30602-00-00	UTAH FED 35-196	Gas Well	EMERY	NENW	35	16S-7E
43-015-30603-00-00	UTAH FED 35-136	Gas Well	EMERY	SWNE	35	16S-7E
43-015-30604-00-00	UT FED 12-200D	Gas Well	EMERY	NESE	12	17S-7E
43-015-30605-00-00	UT FED 12-198D	Gas Well	EMERY	SENE	12	17S-7E
43-015-30606-00-00	ST OF UT QQ 31-204D	Gas Well	EMERY	SESW	31	16S-8E
43-015-30607-00-00	ST OF UT QQ 31-203D	Gas Well	EMERY	SESW	31	16S-8E
43-015-30608-00-00	ST OF UT QQ 31-202D	Gas Well	EMERY	SESW	31	16S-8E
43-015-30609-00-00	ST OF UT HH 23-166	Gas Well	EMERY	NENW	23	17S-8E

OPERATOR CHANGE WORKSHEET

ROUTING

1. GLH

2. CDW

3. FILE

X Change of Operator (Well Sold)

Designation of Agent/Operator

Operator Name Change

Merger

The operator of the well(s) listed below has changed, effective:

8/1/2004

FROM: (Old Operator):

N0210-Chevron USA, Inc

11111 S Wilcrest

Houston, TX 77099

Phone: 1-(281) 561-4991

TO: (New Operator):

N2615-XTO Energy Inc

2700 Farmington Ave, Bldg K Suite 1

Farmington, NM 87401

Phone: 1-(505) 324-1090

CA No.

Unit:

WELL(S)

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
ST OF UT T 36-10	36	160S	070E	4301530268	11866	State	GW	P
SWD 4	15	170S	080E	4301530490	13366	Fee	WD	A
SWD 5	23	170S	080E	4301530510	13403	Fee	WD	A
ST OF UT U 2-11	02	180S	070E	4301530270	11865	State	GW	P
ST OF UT U 2-48	02	180S	070E	4301530306	12145	State	GW	P
ST OF UT U 2-50	02	180S	070E	4301530308	12147	State	GW	P
PEACOCK 7-64	07	180S	070E	4301530327	12199	Fee	GW	P
P & K PEACOCK 8-62	08	180S	070E	4301530320	12238	Fee	GW	P
PEACOCK TRUST 8-61	08	180S	070E	4301530326	12209	Fee	GW	P
PEACOCK TRUST 8-63	08	180S	070E	4301530328	12205	Fee	GW	P
PEACOCK TRUST 9-60	09	180S	070E	4301530321	12206	Fee	GW	P
D & A JONES 9-59	09	180S	070E	4301530329	12202	Fee	GW	S
UP & L 14-55	14	180S	070E	4301530314	12148	Fee	GW	P
D&D CURTIS 14-54	14	180S	070E	4301530319	12346	Fee	GW	S
SWD 2	14	180S	070E	4301530323	12279	Fee	WD	A
R G NORRIS 14-40	14	180S	070E	4301530324	12334	Fee	GW	P
D & A JONES 15-68	15	180S	070E	4301530318	12200	Fee	GW	S
L & M CURTIS 15-67	15	180S	070E	4301530325	12278	Fee	GW	P
UP & L 23-51	23	180S	070E	4301530315	12208	Fee	GW	P
UP & L 24-57	24	180S	070E	4301530316	12207	Fee	GW	P

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 9/28/20042. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 9/28/2004

3. The new company was checked on the Department of Commerce, Division of Corporations Database on: 7/19/2004

4. Is the new operator registered in the State of Utah: YES Business Number: 5655506-0143

5. If NO, the operator was contacted on:

6a. (R649-9-2) Waste Management Plan has been received on: to follow

6b. Inspections of LA PA state/fee well sites complete on: being worked

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA n/a

8. **Federal and Indian Units:**

The BLM or BIA has approved the successor of unit operator for wells listed on: n/a

9. **Federal and Indian Communization Agreements ("CA"):**

The BLM or BIA has approved the operator for all wells listed within a CA on: n/a

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 9/28/2004

DATA ENTRY:

1. Changes entered in the Oil and Gas Database on: 9/30/2004
2. Changes have been entered on the Monthly Operator Change Spread Sheet on: 9/30/2004
3. Bond information entered in RBDMS on: 9/30/2004
4. Fee/State wells attached to bond in RBDMS on: 9/30/2004
5. Injection Projects to new operator in RBDMS on: 9/30/2004
6. Receipt of Acceptance of Drilling Procedures for APD/New on: 9/28/2004

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: 579173

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: n/a

FEE & STATE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 104312762
2. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 10/5/2004

COMMENTS:

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: PRIVATE
2. NAME OF OPERATOR: XTO ENERGY INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 2700 FARMINGTON AVE, S ₁ CITY FARMINGTON STATE NM ZIP 87401		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 386' FNL & 767' FWL		8. WELL NAME and NUMBER: SWD #2
PHONE NUMBER: (505) 324-1090		9. API NUMBER: 4301530323
10. FIELD AND POOL, OR WILDCAT: BUZZARD BENCH NAVAJO SS		

COUNTY: EMERY

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: 1/2/2005	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: MECHANICAL
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	INTEGRITY TEST

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

XTO Energy proposes to perform a MIT on this well in the following manner:

- 1) MIRU PU. ND WH. NU BOP.
- 2) TOH & inspect tubing. Re-run tubing & packer.
- 3) Mix approx 140 bbls packer fluid & pump down TCA.
- 4) Perform MIT.
- 5) ND BOP. NU WH.

XTO Energy will notify Bart Kettle (DOGM) 48 hrs in advance of MIT.

XTO Energy Inc. will install a temporary workover pit for MIT to be performed. This pit will be removed in accordance with DOGM standards at completion of work.

COPY SENT TO OPERATOR

Date: 12-21-04
Initials: CHD

NAME (PLEASE PRINT) HOLLY C. PERKINS	TITLE REGULATORY COMPLIANCE TECH
SIGNATURE <i>Holly C. Perkins</i>	DATE 12/14/2004

(This space for State use only)

RECEIVED
DEC 16 2004
DIV. OF OIL, GAS & MINING

RECORD CLEAN UP

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: PRIVATE
2. NAME OF OPERATOR: XTO ENERGY INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA
3. ADDRESS OF OPERATOR: 382 CR 3100 CITY: AZTEC STATE: NM ZIP: 87410		7. UNIT or CA AGREEMENT NAME: NA
4. LOCATION OF WELL FOOTAGES AT SURFACE: 386' FNL & 767' FWL COUNTY: EMERY QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWNW 14 18S 7E S STATE: UTAH		8. WELL NAME and NUMBER: SWD #2 9. API NUMBER: 4301530323 10. FIELD AND POOL, OR WLD CAT: BUZZ BENCH/NAVAJO SS

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT <small>(Submit in Duplicate)</small> Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/RESUME) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input checked="" type="checkbox"/> OTHER: MIT TEST
<input checked="" type="checkbox"/> SUBSEQUENT REPORT <small>(Submit Original Form Only)</small> Date of work completion: 1/15/2005			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

RECORD CLEANUP:

XTO Energy Inc. performed a Mechanical Integrity Test in the following manner:

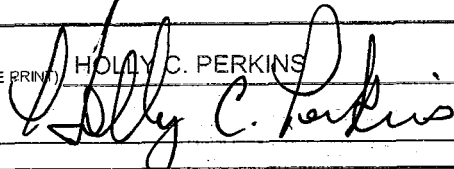
1/11/2005: Notified Bart Kettle w/DOGM. ND WH, NU BOP.

1/12/2005: TOH w/218 jts 4-1/2" tbg. Duoline inspected tbg. Some rings & flares needed replaced.

1/13/2005: TIH w/pkr & 115 jts 4-1/2" tbg. Duoline inspected ring collars, measure & mark threads to make up collars.

1/14/2005: TIH 1/109 jts 4-1/2" tbg. Duoline inspected ring collars, measured & marked threads to make up collars.

1/15/2005: Ppd dwn csg w/134 bbls pkr fluid. ND BOP. Set pkr @ 6740' 1/10,000# comp, SN @ 6746' & EOT @ 6747'. NU WH. Press csg to 1150 psig for 30 min on chart rec. Tested OK. Bart Kettle w/DOGM witnessed & signed chart. Released casing pressure. RU surf equip. RWT injection @ 3:30 pm, 1/14/2005.

NAME (PLEASE PRINT) <u>HOLLY C. PERKINS</u> SIGNATURE <u></u>	TITLE <u>REGULATORY COMPLIANCE TECH</u> DATE <u>3/17/2008</u>
---	--

(This space for State use only)

RECEIVED

MAR 19 2008

DIV. OF OIL, GAS & MINING

RECORD CLEAN UP

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: FEE
2. NAME OF OPERATOR: XTO ENERGY INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 382 CR 3100 CITY AZTEC STATE NM ZIP 87410		7. UNIT or CA AGREEMENT NAME:
PHONE NUMBER: (505) 333-3100		8. WELL NAME and NUMBER: SWD #2
4. LOCATION OF WELL FOOTAGES AT SURFACE: 386' FNL & 767' FWL		9. API NUMBER: 4301530323
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 14 18S 07E S		10. FIELD AND POOL, OR WILDCAT: BUZZARD BENCH

COUNTY: **EMERY**

STATE: **UTAH**

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 1/4/2005	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: REPAIR TUBING LEAK
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Texaco North American Production repaired this tubing leak in the following manner:

4/8/2002: Texaco repaired tubing leak. Pressure chart dated 4/8/02.

5/8/2003: Texaco found tubing leak again around packer & on/off tool.

6/8/2003: Texaco repaired tubing leak by eliminating the on/off tool. Tested to 2725 psi. Tested OK.

1/11/2005: XTO Energy Inc., as new owner of well, pulled tubing.

1/14/2005: XTO Energy Inc. re-ran tubing with new seals and set packer. Pressure tested casing to 1150 psig for 30 minutes on chart. Bart Kettle with DOGM witnessed and signed chart.

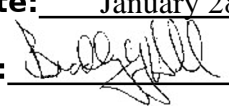
RECEIVED

MAR 26 2008

DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) HOLLY C. PERKINS	TITLE REGULATORY COMPLIANCE TECH
SIGNATURE	DATE 3/24/2008

(This space for State use only)

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: FEE
1. TYPE OF WELL Water Disposal Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: XTO ENERGY INC		7. UNIT or CA AGREEMENT NAME:
3. ADDRESS OF OPERATOR: 382 Road 3100 , Aztec, NM, 87410		8. WELL NAME and NUMBER: SWD 2
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0386 FNL 0767 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 14 Township: 18.0S Range: 07.0E Meridian: S		9. API NUMBER: 43015303230000
PHONE NUMBER: 505 333-3159 Ext		9. FIELD and POOL or WILDCAT: BUZZARD BENCH
COUNTY: EMERY		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 1/20/2010	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input checked="" type="checkbox"/> OTHER	
	OTHER: MIT	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. XTO Energy Inc. performed a MIT on this well 1/20/2010: MIRU Big Red hot oil. PT csg to 1200 psig for 30" as requested & witnessed by Mark Jones with the State. Tstd OK. Rlsd press. RDMO Big Red hot oil. Please see attached MIT Chart.		
Accepted by the Utah Division of Oil, Gas and Mining		Date: January 28, 2010
By: 		
NAME (PLEASE PRINT) Barbara Nicol		PHONE NUMBER 505 333-3642
SIGNATURE N/A		TITLE Regulatory Compliance Tech
		DATE 1/26/2010

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>SWD #2</u>		5. LEASE DESIGNATION AND SERIAL NUMBER:
2. NAME OF OPERATOR: XTO Energy, Inc		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 1095 N. SR 57 POB 618 CITY <u>Orangeville</u> STATE <u>UT</u> ZIP <u>84078</u>		7. UNIT or CA AGREEMENT NAME:
PHONE NUMBER: (435) 748-5395		8. WELL NAME and NUMBER: SWD # 2
4. LOCATION OF WELL FOOTAGES AT SURFACE: <u>0.386 FNL 0.767 FWL</u>		9. API NUMBER: 4301530323
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <u>NWNW 14 18S 7E</u>		10. FIELD AND POOL, OR WILDCAT:

COUNTY: Emery CountySTATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>7/1/2010</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Pit closure</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

It has been determined that we will no longer use the pit at SWD #2. We will be using 2-500 bbl tanks in place of the pits. We will be removing the liner and disposing of it at an approved facility and sampling the soil beneath the pits. We will fill the pits and reclaim according to State recommendations.

Approved by the
Utah Division of
Oil, Gas and Mining

Date: 06-09-10By: [Signature]

COPY SENT TO OPERATOR

Date: 6/10/2010Initials: KSNAME (PLEASE PRINT) Misty JorgensenTITLE Environmental SpecialistSIGNATURE [Signature]DATE 6/7/2010

(This space for State use only)

RECEIVED**JUN 08 2010****DIV. OF OIL, GAS & MINING**

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: FEE
1. TYPE OF WELL Water Disposal Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: XTO ENERGY INC		7. UNIT or CA AGREEMENT NAME:
3. ADDRESS OF OPERATOR: 382 Road 3100 , Aztec, NM, 87410		8. WELL NAME and NUMBER: SWD 2
PHONE NUMBER: 505 333-3159 Ext		9. API NUMBER: 43015303230000
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0386 FNL 0767 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 14 Township: 18.0S Range: 07.0E Meridian: S		9. FIELD and POOL or WILDCAT: BUZZARD BENCH
		COUNTY: EMERY
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 10/25/2010	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text" value="PIT CLOSURE"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
XTO Energy Inc. has closed the pit @ SWD #2 per the following: 8/18/2010: MI, set two 500 bbl tks w/ stairs, dressed out tks, work on overflow lines, suspend report until further activity. 9/16/2010: MIRU Nielson Const. Service Liner was disposed of at the ECDC disposal. Soil samples were taken; they met state requirements. 9/22/10: Pit closed. RDMO Nielson Construction 10/25/2010: Reseeded @ 6 lbs. per acre with state approved seed mix as per Jim Davis.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Barbara Nicol	PHONE NUMBER 505 333-3642	TITLE Regulatory Compliance Tech
SIGNATURE N/A	DATE 2/9/2011	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: FEE
1. TYPE OF WELL Water Disposal Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: XTO ENERGY INC		7. UNIT or CA AGREEMENT NAME:
3. ADDRESS OF OPERATOR: PO Box 6501, Englewood, CO, 80155		8. WELL NAME and NUMBER: SWD 2
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0386 FNL 0767 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 14 Township: 18.0S Range: 07.0E Meridian: S		9. API NUMBER: 43015303230000
PHONE NUMBER: 303 397-3727 Ext		9. FIELD and POOL or WILDCAT: BUZZARD BENCH
COUNTY: EMERY		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 1/16/2015	<input checked="" type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	OTHER: <input type="text" value="5-YR. MIT"/>	
<input type="checkbox"/> DRILLING REPORT Report Date:		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. XTO Energy Inc. performed a MIT on this SWD well per the following: 1/16/2015: MIRU quick test. PT line to 1,550 psig, gd tst. PT csg 1,000 psig for 30 min. Tstd gd. Witness by Mark Jones w/DOGM. RDMO. Please see the attached MIT chart.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 20, 2015		
NAME (PLEASE PRINT) Barbara Nicol	PHONE NUMBER 303-397-3736	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 1/19/2015	

CHART NO. **X To** MC MP-5000-1HR

1-16-15
TAKEN OFF

CHART PUT ON

LOCATION

REMARKS

^M
SWD #2

MIT

Fit to Cox

Wetmore Road
Wentworth
Mass 01905
10/9/11

